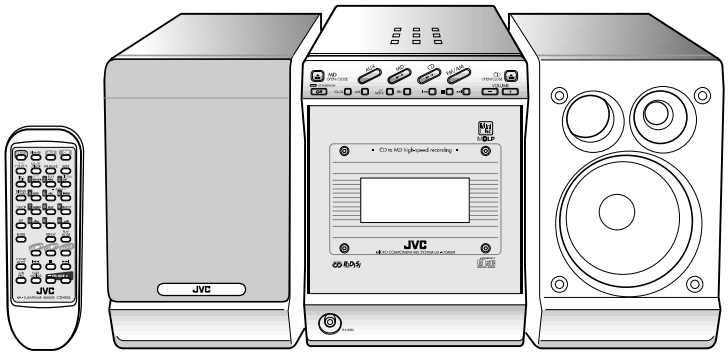
UX-A70MDR

JVC

SERVICE MANUAL

MICRO COMPONENT MD SYSTEM

UX-A70MDR



RIDISI

MDLP

Mini Disc

COMPACT disc DIGITAL AUDIO

Area Suffix	
B	U.K.
E	Continental Europe
EN	Northern Europe

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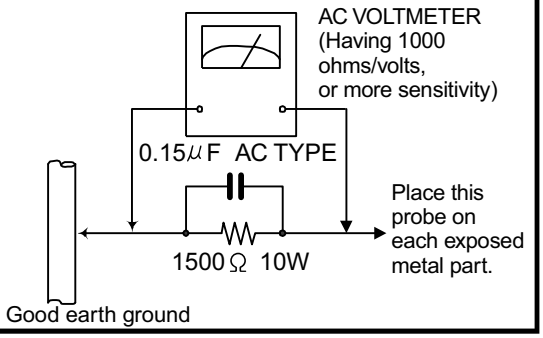
No.20907
Jan. 2001

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer`s warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet , particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to eachexposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

Safety precautions (U.K only)

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by (⚠) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. Please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service Manual and may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

Warning

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. If mains voltage selector is provided, check setting for local voltage.

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.1. Grounding to prevent damage by static electricity

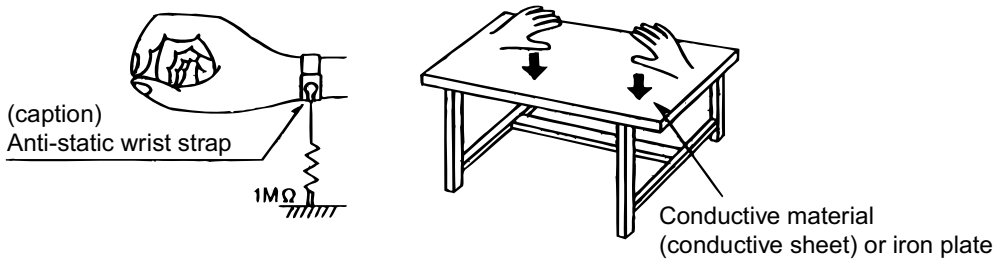
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

1.1.1. Ground the workbench

1. Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

1.1.2. Ground yourself

1. Use an anti-static wrist strap to release any static electricity built up in your body.



1.1.3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)

2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

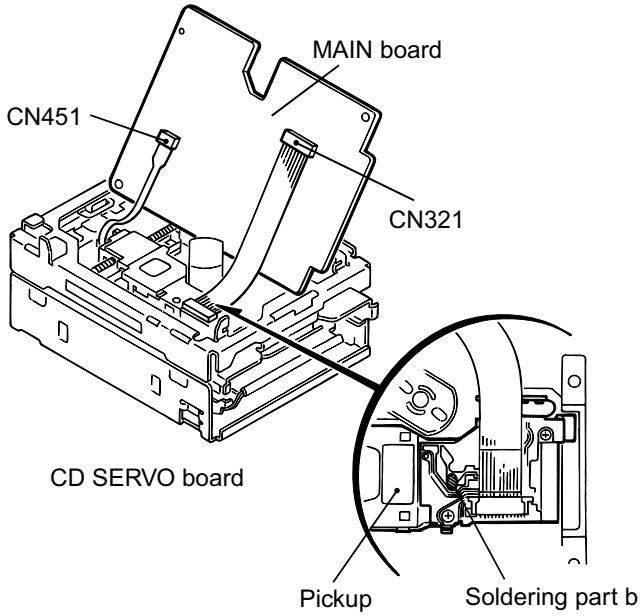
1.2. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.

2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.

3. Handle the flexible cable carefully as it may break when subjected to strong force.

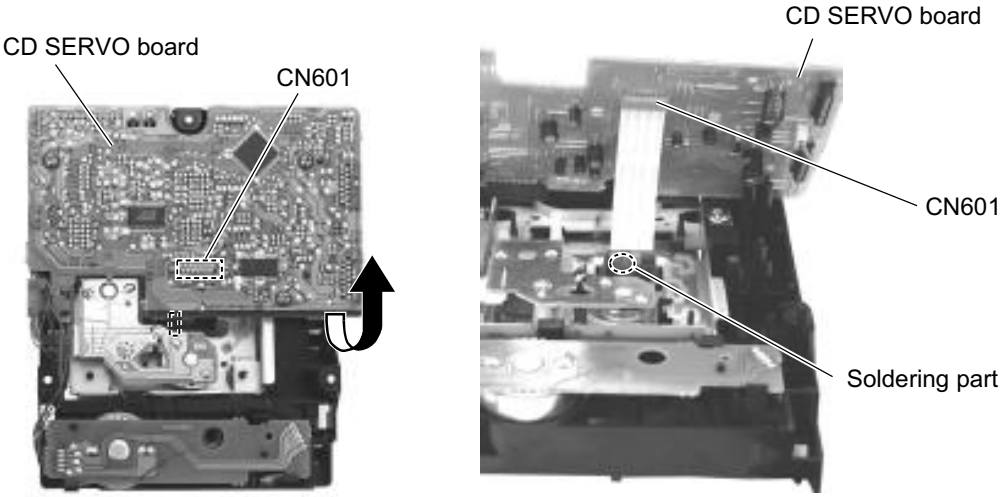
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it



1.3. Cautions on removing the CD traverse unit

* For removing the CD traverse unit in detail, refer to the "Adjustment Method" section of this manual.

1. Before disconnecting the flexible wire from the connector CN601 on the CD SERVO board, solder the part shown in the figure below.
   (Note:If the flexible wire is disconnected from the CN601 without presoldering, it may cause breakdown of the CD pickup assembly.)
2. When reassembling the CD traverse unit, be sure to remove the solder from the soldered part after reconnecting the flexible wire to the CN601.



Important for laser products

1.**CLASS 1 LASER PRODUCT**
2.**DANGER :** Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.
3.**CAUTION :** There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4.**CAUTION :** The compact disc player uses invisible laserradiation and is equipped with safety switches whichprevent emission of radiation when the drawer is open and the safety interlocks have failed or are de feated. It is dangerous to defeat the safety switches.
5.**CAUTION :** If safety switches malfunction, the laser is able to function.
6.**CAUTION :** Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

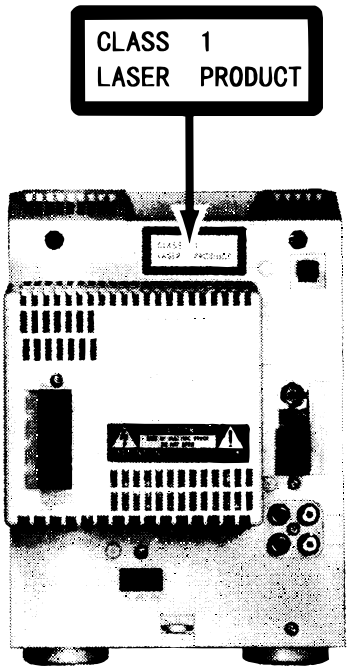
⚠ ***CAUTION*** **Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.**

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.
VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle.Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.
ADVARSEL : Usynlig laserstråling ved åpning,når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL



Disassembly method

<Main body>

■Removing the rear cover

(See Fig.1 and 2)

1. Remove the nine screws **A** attaching the rear cover on the back of the body.
2. Remove the two screws **B** attaching the rear cover on the bottom of the body.
3. Unlock the speaker terminal and the antenna terminal, then remove the rear cover backward with releasing the hooks.

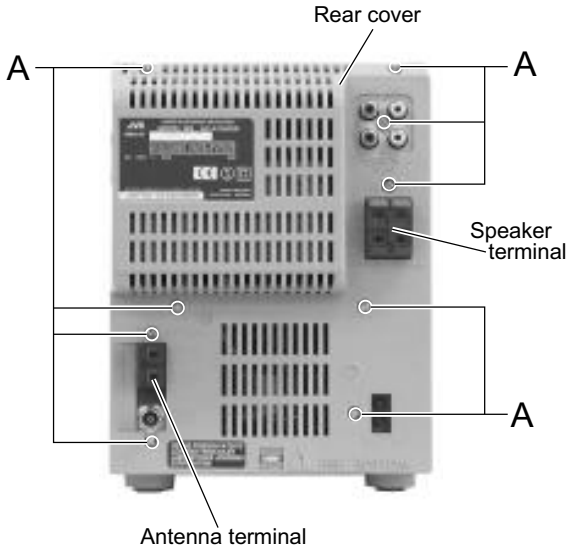


Fig.1

■Removing the side panels

(See Fig.3 and 4)

・ Prior to performing the following procedure, remove the rear cover.

1. Remove each side panel backward while releasing the joints **a**.

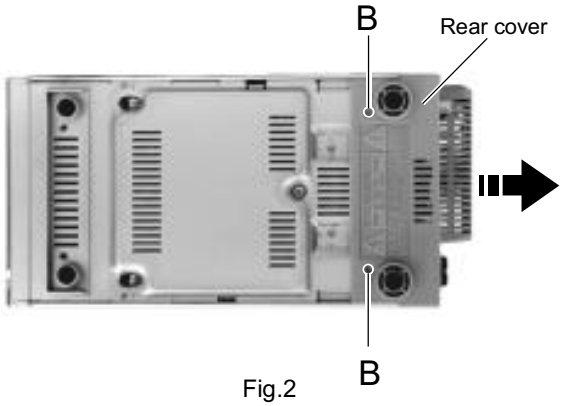


Fig.2

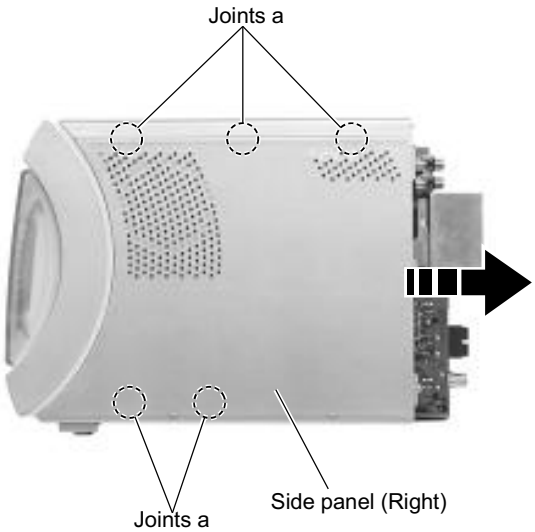


Fig.4

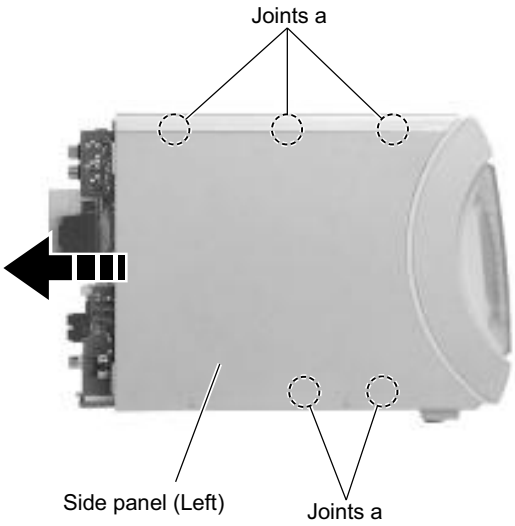


Fig.3

■Removing the top cover (See Fig.5 and 6)

・ Prior to performing the following procedure, remove the rear cover and the side panels.

1. Remove the two screws **C** on each side of the body.
2. Release the joint **b** on each side of the body and remove the top cover backward and upward.

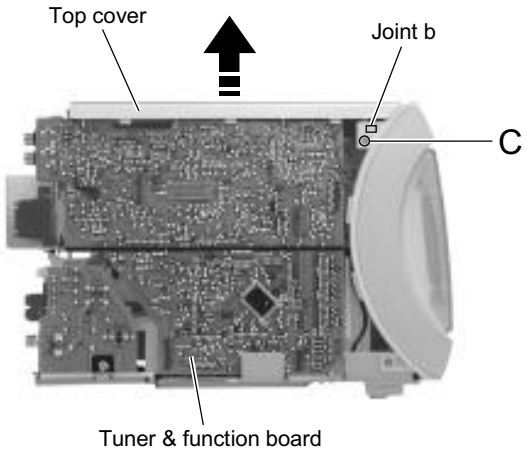


Fig.5

■Removing the fan assembly (See Fig.6)

・ *Prior to performing the following procedure, remove the rear cover, the right and left side panels.

1. Remove the two screws **D** on the right side of the body and pull out the fan assembly sideward.
2. Disconnect the wire from connector CN807 on the main board.

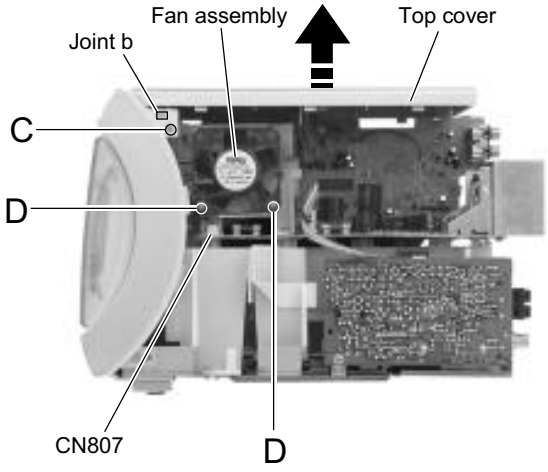


Fig.6

■Removing the MD mechanism assembly unit (See Fig.7)

・ Prior to performing the following procedure, remove the rear cover, the side panels, the top cover and the fan assembly.

1. Disconnect the card wire from connector CN721 on the tuner & function board.
2. Remove the four screws **D** and the MD mechanism assembly backward and upward while pulling the front panel assembly forward.

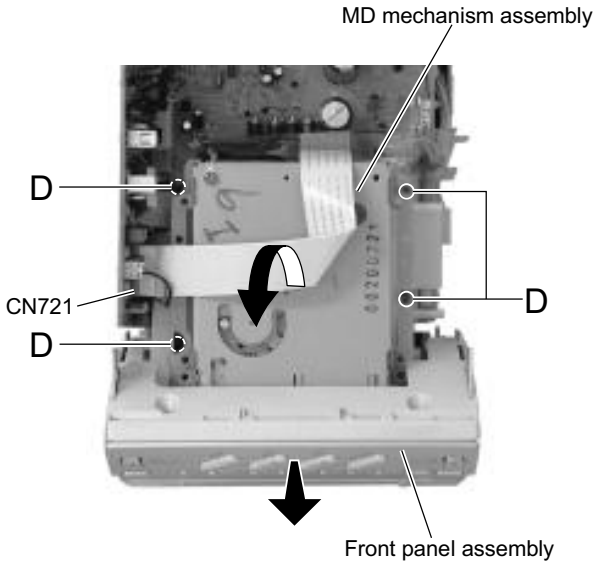


Fig.7

■Removing the tuner & function board (See Fig.8)

・ Prior to performing the following procedure, remove the rear cover, the side panels and the top cover.

1. Disconnect the card wire from connector CN701, CN705, CN707, CN708 and CN721 on the tuner & function board on the right side of the body. Similarly, disconnect the harness from CN706.

   CAUTION: For the card wire connected to CN707, disconnect it after performing the following procedure 2 and 3.

2. Disconnect connector CN711 and CN712 on the tuner & function board from CN801 and CN802 on the main board by pulling them outward.

3. Disconnect connector CN703 and CN704 on the tuner & function board from CN603 and CN604 on the CD servo board by pulling them upward.

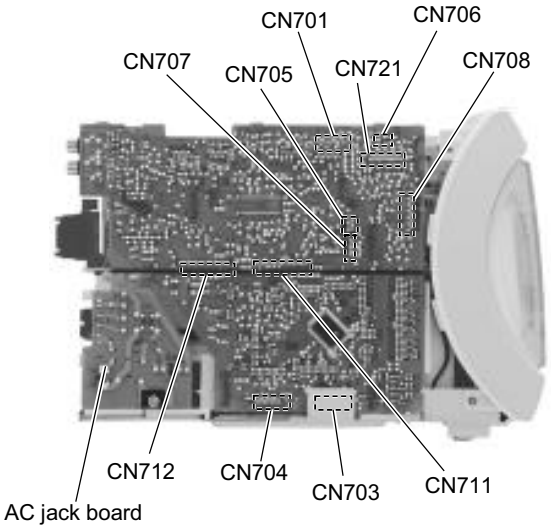


Fig.8

■Removing the AC jack board (See Fig.9)

・ Prior to performing the following procedure, remove the rear cover and the right side panel.

1. Remove the screw **E** on the right side of the body and release the AC jack board from the two joints **c**.

2. Disconnect the harness from connector CN805 on the AC jack board.

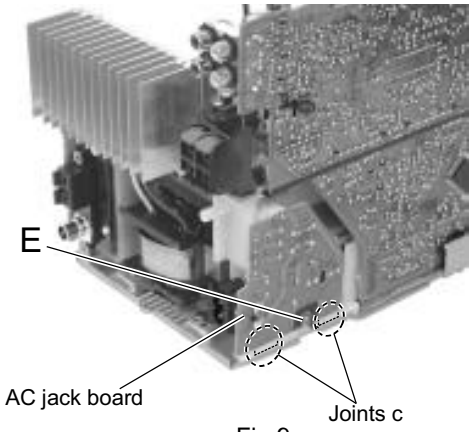


Fig.9

■Removing the antenna terminal board (See Fig.10)

・ Prior to performing the following procedure, remove the rear cover and the left side panel.

1. Disconnect the card wire from connector CN1 on the left side of the body.

2. Remove the screw **F** and release the antenna terminal board from the joint **d** upward.

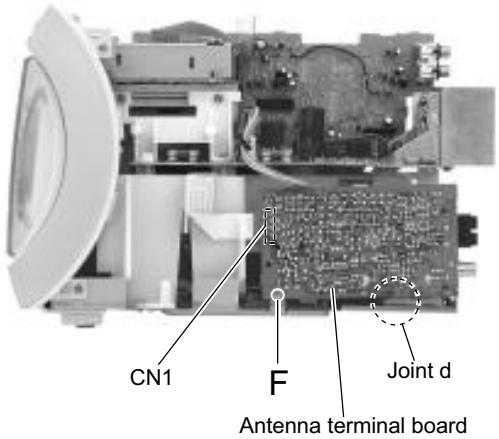


Fig.10

■Removing the front panel assembly unit (See Fig.11 to 15)

・ Prior to performing the following procedure, remove the rear cover, the side panels, thetop cover, the MD mechanism assembly and the tuner & function board.

1. Disconnect the wire from connector CN804 and CN806 on the main board. Disconnectthe wire from W802 pin terminal.

2. Remove the two screws **G** on the bottom of the body.

3. Remove the lower screw **H** on each side of the body.

4. Release the lower joint **e** on each side of the body. Pull out the front panel assemblytoward the front.

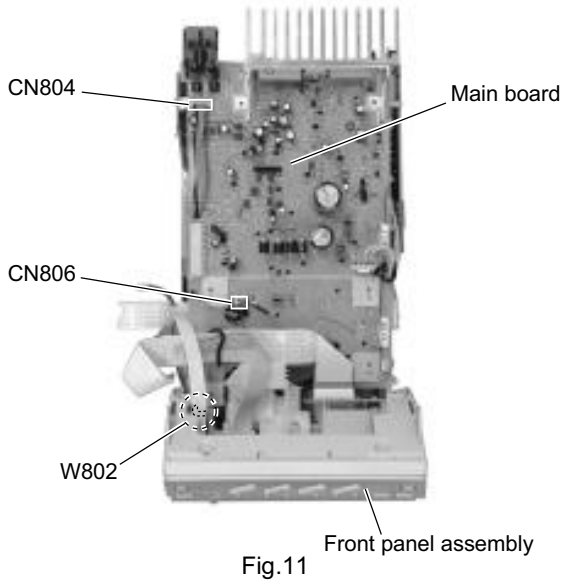


Fig.11

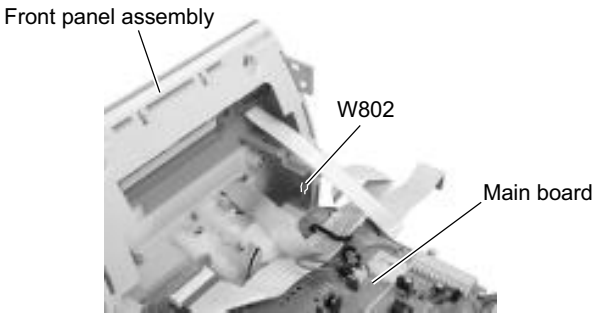


Fig.12

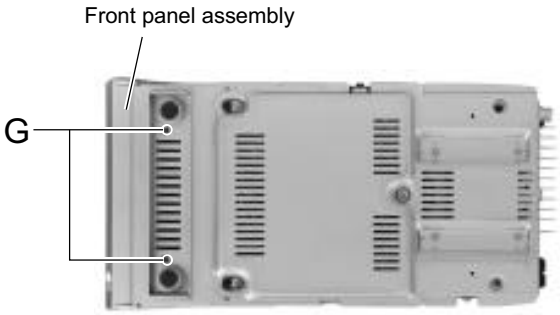


Fig.13

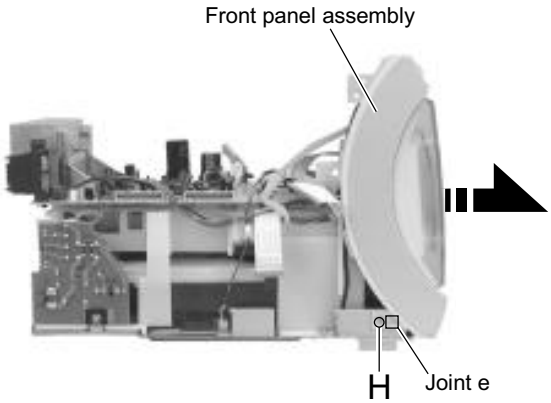


Fig.15

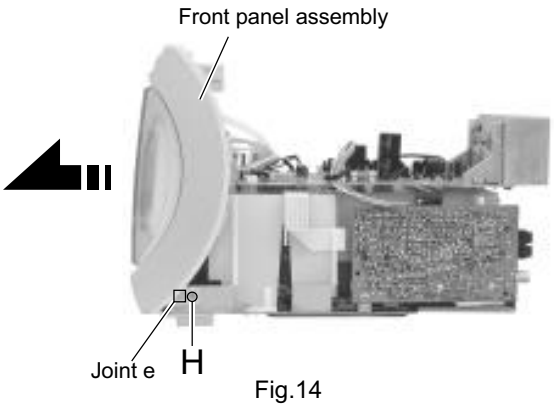


Fig.14

■Removing the main board / heat sink (See Fig.16 to 18)

・ Prior to performing the following procedure, remove the rear cover, the side panels, thetop cover, the MD mechanism assembly and the tuner & function board.

1. Disconnect the wire from connector CN803, CN804 and CN806 on the main boardrespectively. Disconnect the wire from W802 pin terminal.
2. Remove the screw **I** attaching the main board and the screw **J** attaching the wireterminal.

CAUTION: When reasse mbling, fit the slots of the main board to the two bosses.

3. Remove the three screws **K** on the heat sink bracket.
4. Remove the two screws **L** on the back of the main board.

CAUTION: When removing the heat sink bracket, disengage the two joints **d** on theback of the main board.

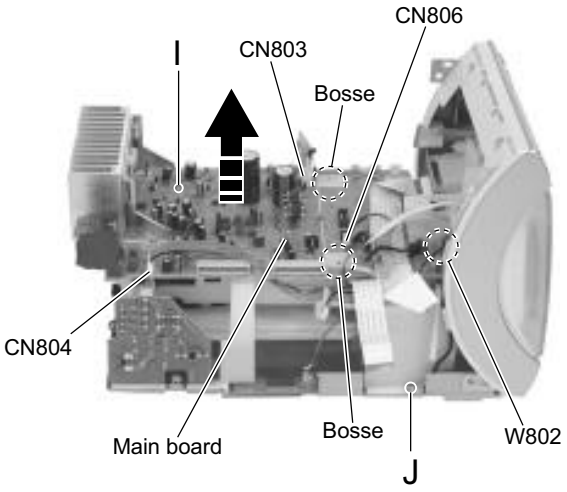


Fig.16

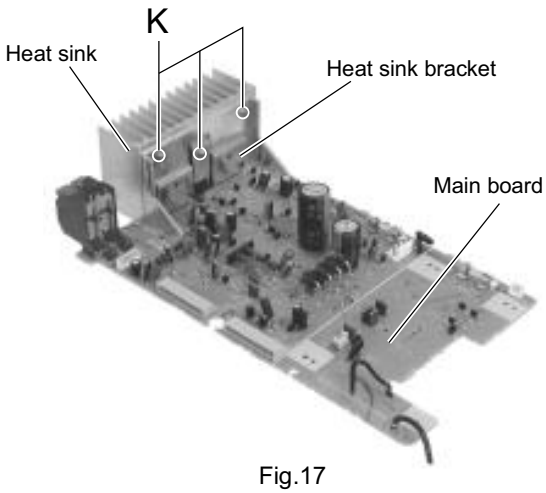


Fig.17

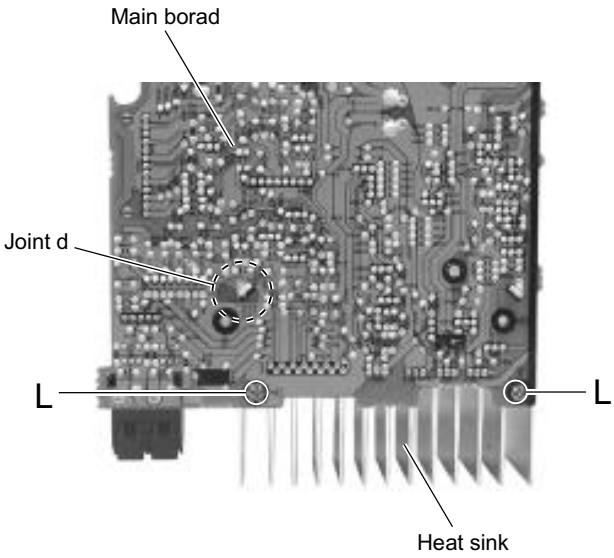


Fig.18

■Removing the CD mechanism assembly and the CD servo board

(See Fig.19 to 24)

- Prior to performing the following procedure, remove the rear cover, the side panels, the top cover, the MD mechanism assembly, the tuner & function board, the AC jack board, the antenna terminal board, the front panel assembly and the main board.

1. Cut off the two tie band on the back of the CD mechanism assembly top cover.
2. Remove the screw **M** and the top cover.
3. Move the lever f in the direction of the arrow to draw the loading tray manually.
4. Remove the screw **N** on the CD tray and pull out the CD tray from the CD mechanism assembly.
5. Remove the two screws **O** attaching the clamper base on top of the CD mechanism assembly. Release the two joints **g** with the CD mechanism assembly and remove the clamper base upward.
6. Remove the three screws **P** attaching the CD mechanism assembly.
7. Remove the three screws **Q** attaching the CD servo board on the back of the CD mechanism assembly.
8. Disconnect the harness from connector P031 on the CD mechanism assembly. Disconnect the harness and the card wire from connector CN602 and CN601 on the CD servo control board respectively.

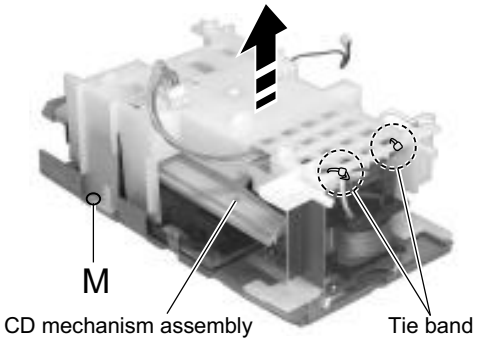


Fig.19

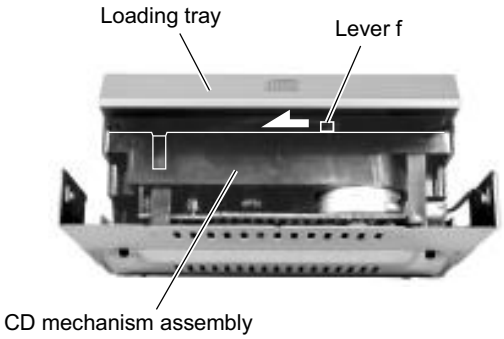


Fig.20

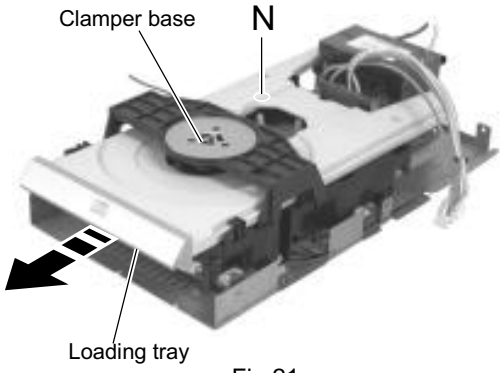


Fig.21

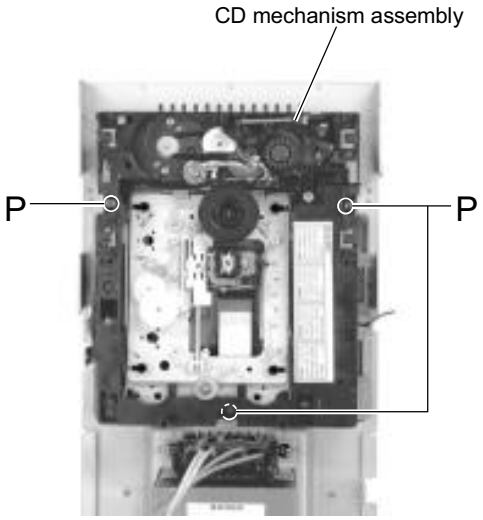


Fig.23

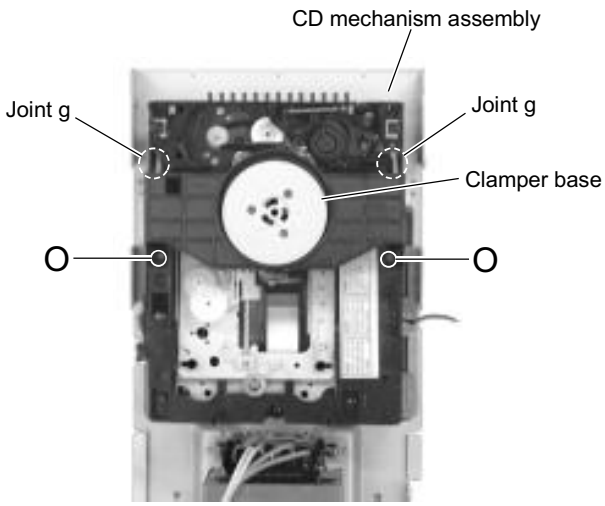


Fig.22

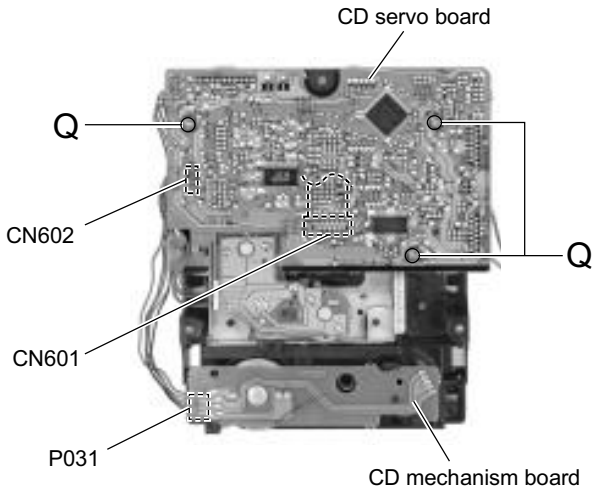


Fig.24

■Removing the transformer assembly (See Fig.19 and 25)

- Prior to performing the following procedure, remove the rear cover, the side panels, the top cover, the MD mechanism assembly, the tuner & function board, the AC jack board, the antenna terminal board, the front panel assembly and the main board.

1. Cut off the two wire clamp on the back of the CD mechanism assembly upper cover.

2. Remove the screw **M** and the CD mechanism assembly upper cover.

3. Remove the four screws **R** attaching the transformer assembly.

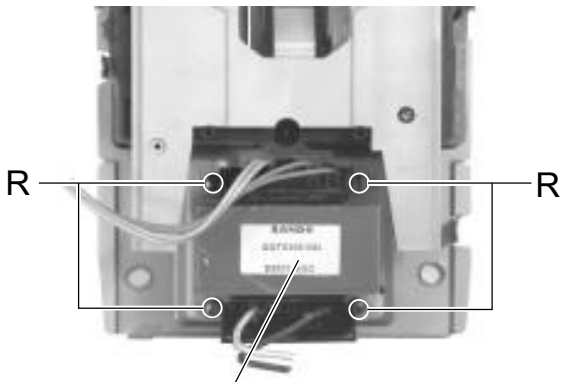


Fig.25

<MD mechanism assembly unit>

・ Prior to performing the following procedure, remove the rear cover, the side panels, the top cover unit and the MD mechanism assembly unit.

■Removing the MD mechanism assembly (See Fig.26 to 28)

1. Remove the four screws **S** attaching the bracket (a) and (b) on both sides of the MD mechanism assembly unit.

2. Disconnect the card wire from connector CN521 on the MD mechanism board. Remove the MD mechanism assembly bottom cover downward.

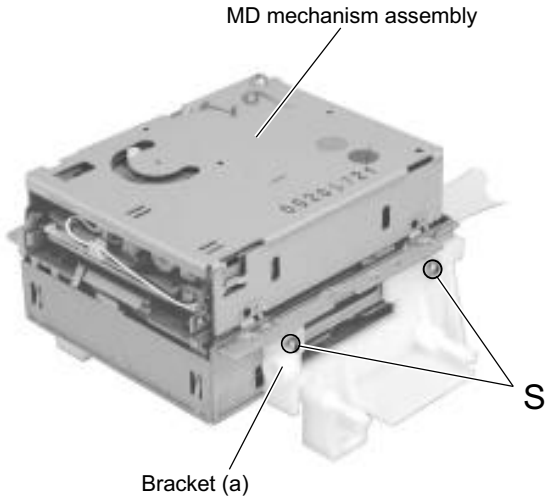


Fig.26

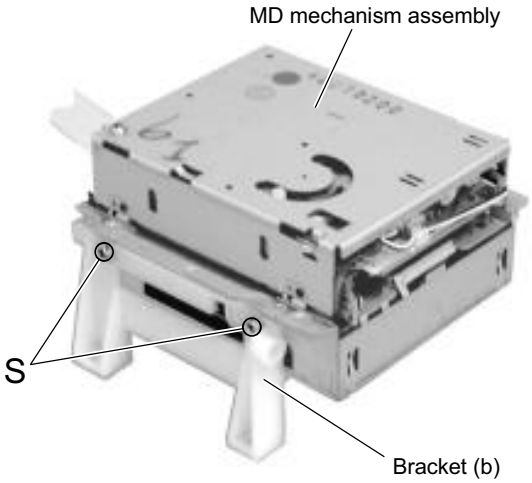


Fig.27

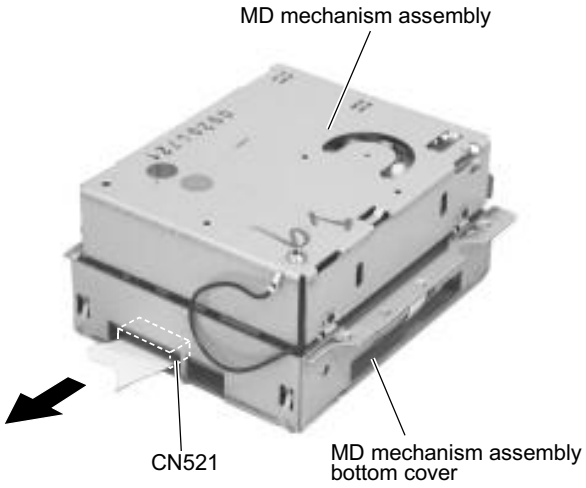


Fig.28

<Front panel assembly unit>

・ Prior to performing the following procedure,remove the rear cover,the side panels, the top cover, the MD mechanism assembly unit,the tuner & function board and the front panel assembly unit.

■Removing the relay board (See Fig.29)

1. Disconnect the card wire from connector CN908 on the relay board respectively.

2. Remove the screw **T** attaching the relay board.

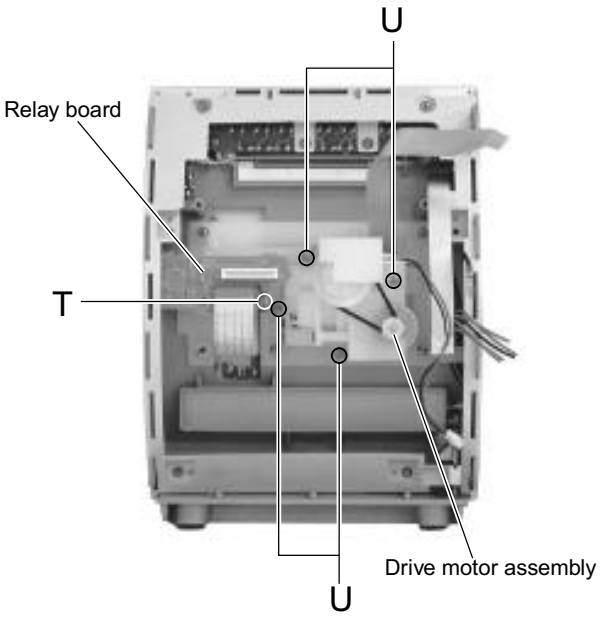


Fig.29

■Removing the drive motor assembly (See Fig.29 and 30)

1. Remove the four screws **U** attaching the drive motor assembly.

2. Remove the belt and the screw **V** attaching the drive motor.

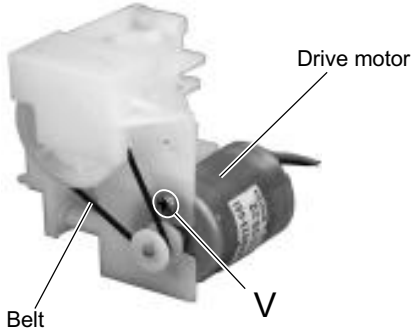


Fig.30

■Removing the headphone jack board (See Fig.31)

1. Remove the six screws **W** attaching the bracket (c), and detach the headphone jack board.

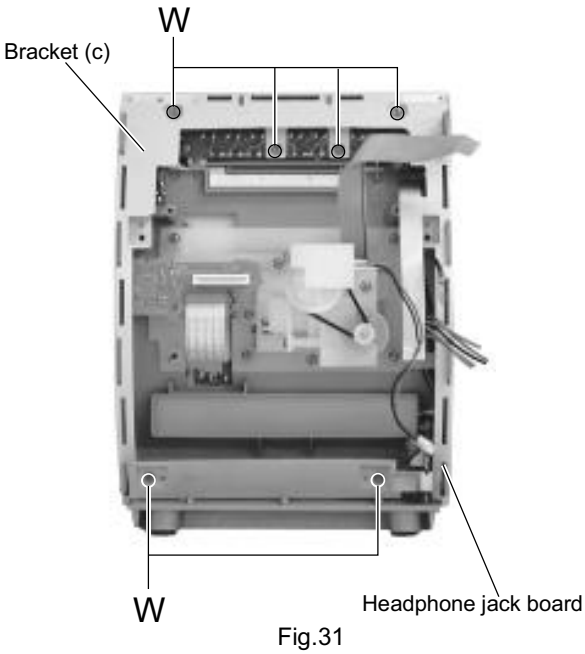


Fig.31

■Removing the key switch board / (d) board (See Fig.32 and 33)

・ Prior to performing the following procedure, remove the bracket (c).

1. Remove the three screws **X** attaching the key switch board.

2. Remove the spring g and the screw **Y** attaching the (d) board.

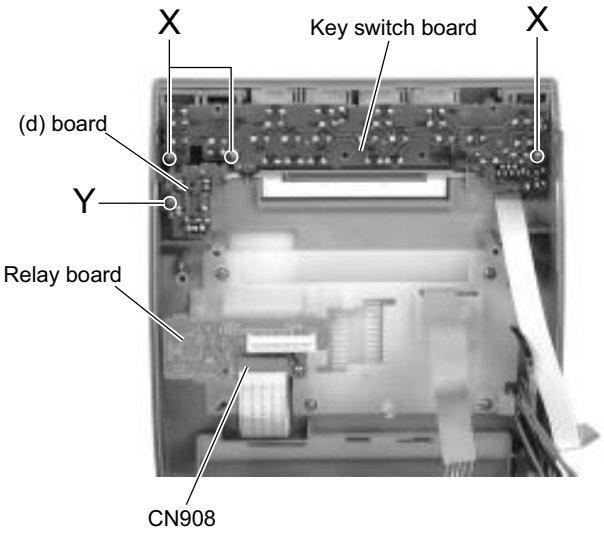


Fig.32

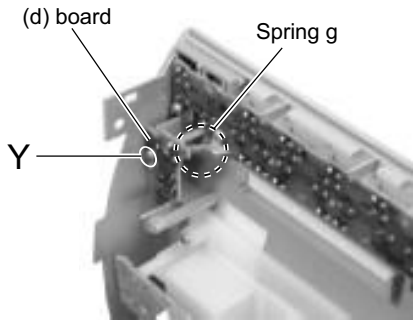


Fig.33

■Removing the LCD board / sub board (See Fig.32 and 34 to 37)

1. Disconnect the card wire from connector CN908 on the relay board on the back of thefront panel assembly.

2. Remove the four screws **A'** attaching the CD / MD door cover on the front side of the frontpanel assembly. Remove the CD / MD door cover, then the LCD board unit.

3. Pull out the LCD lens from the four bosses on the LCD board unit.

4. Remove the LCD board and the lens cover in the direction of the arrow (The lens cover isattached with a double-sided tape).

5. Disconnect the sub board from connector CN913 on the LCD board.

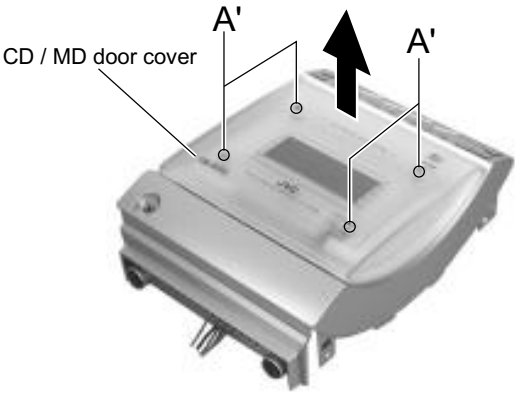


Fig.34

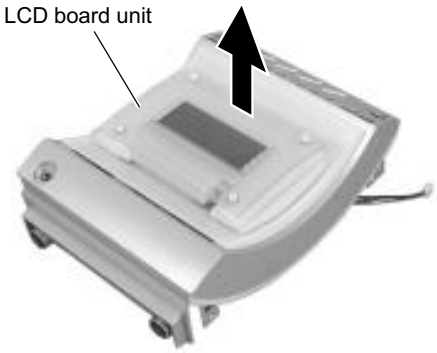


Fig.35

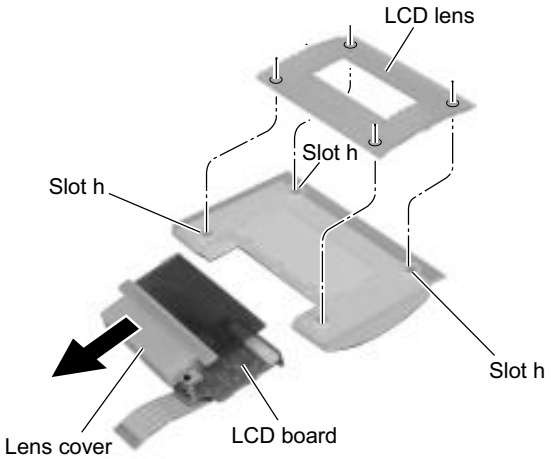


Fig.36

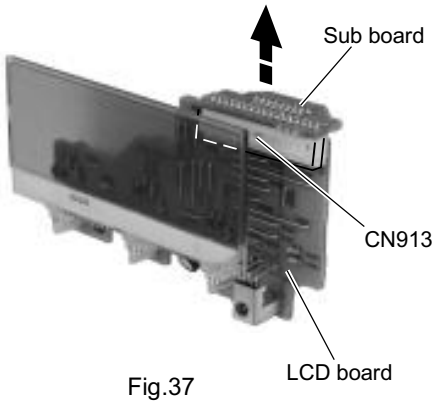


Fig.37

■Removing the CD / MD door board (See Fig.38 and 39)

・ Prior to performing the following procedure,remove the LCD board unit.

1. Remove the four screws **B'** attaching the two brackets (e). Remove the CD / MD door base and the two brackets (e).

2. Remove the screw **C'** attaching the CD / MD door board.

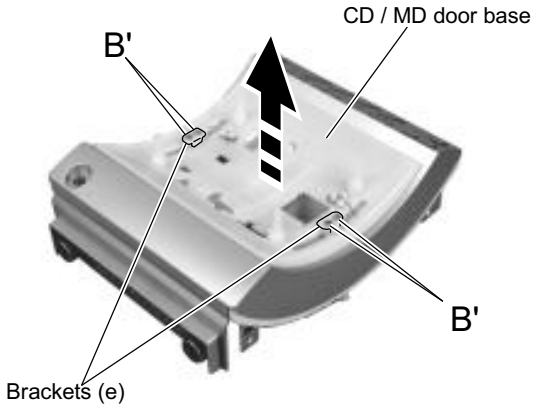


Fig.38

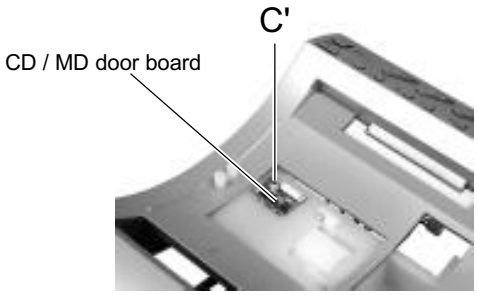


Fig.39

Disassembly method

<Main body>

■Removing the main board

(See Fig.1 and 2)

1. Turn over the body and disconnect the card wire from connector CN408 and the flexible wire from CN407 on the main board.

2. Remove the two screws A attaching the main board. Slide the main board in the direction of the arrow to release the two joints a with the single flame.

3. Solder part b on the pickup in the body. Disconnect the flexible harness from connector CN321 and CN451 on the underside of the main board. Then remove the main board.

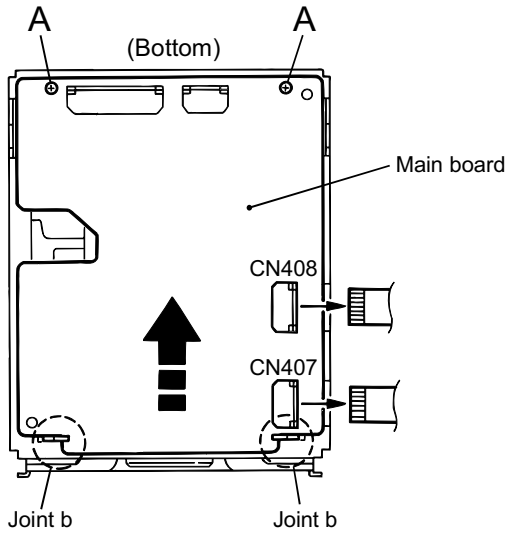


Fig.1

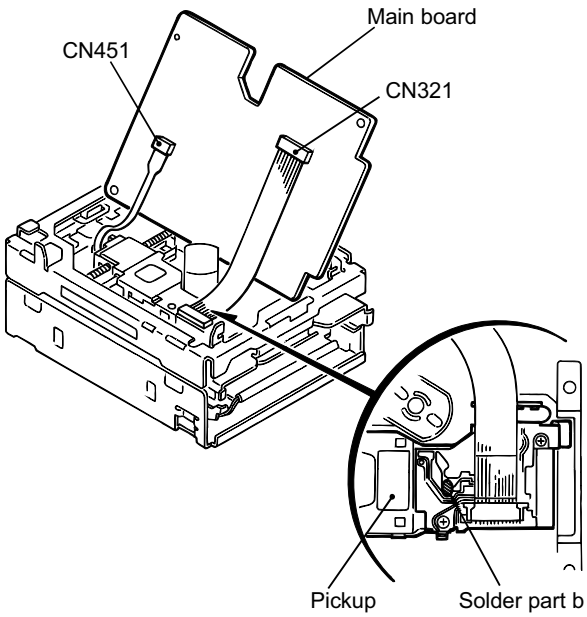


Fig.2

■Removing the mechanism cover

(See Fig.3)

1. Remove the four screws B on both sides of the body.

2. Move the mechanism cover toward the front to disengage the front hook of the mechanism cover from the internal loading assembly (Joint c). Then remove the mechanism cover upward.

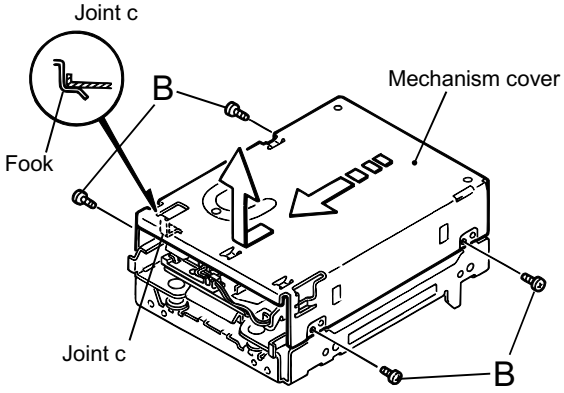


Fig.3

■Removing the head lifter (See Fig.4 to 6)

1. Move the head lifter on top of the body in the direction of the arrow and turn around.
2. Detach the spring from the hook of the body. Remove the head lifter with the spring.
3. If necessary, remove the spring from the head lifter.

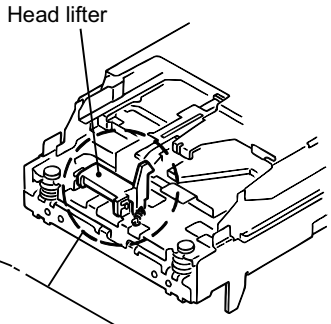


Fig.4

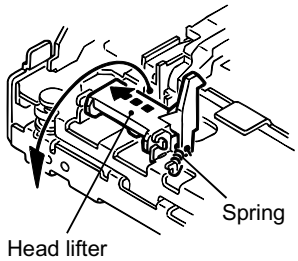


Fig.5

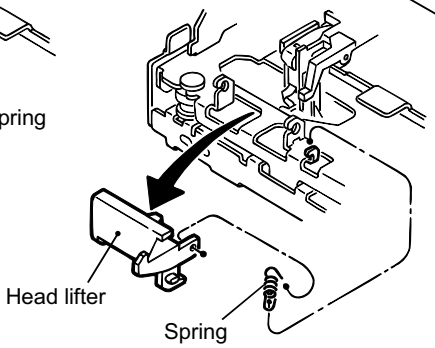


Fig.6

■Removing the head assembly (See Fig.7)

1. Remove the screw C on the upper side of the body. Remove the head assembly while pulling the flexible harness from the body.

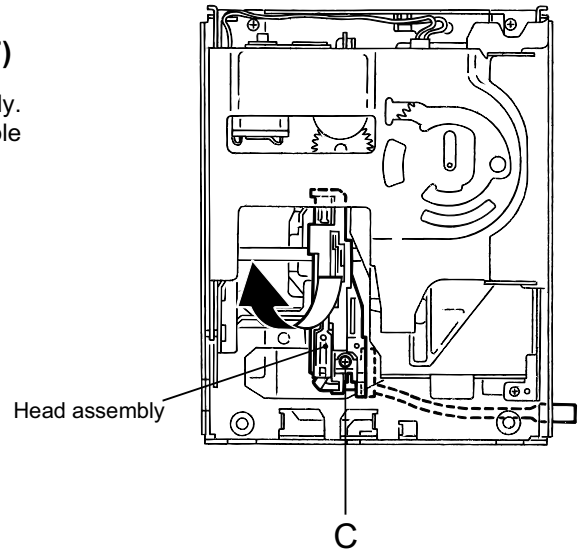


Fig.7

■Removing the Loading assembly (See Fig.8 and 9)

Ref: The loading assembly, the traverse mechanism assembly and the single flame will be removable after removing the loading assembly from the body.

・ Prior to performing the following procedure, remove the main board, the mechanism cover, the head lifter and the head assembly.

1. Remove the three screws D on the upper side of the body.

2. Move the loading assembly forward to disengage it from the traverse mechanism assembly (Joint d). Then remove it upward.

3. Remove the traverse mechanism assembly from the single flame.

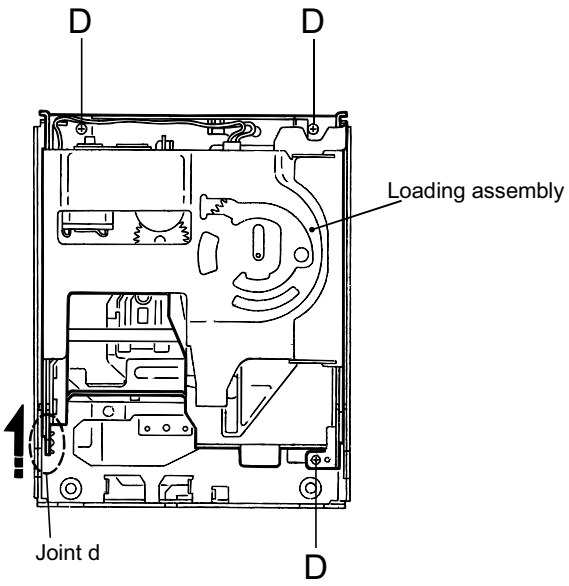


Fig.8

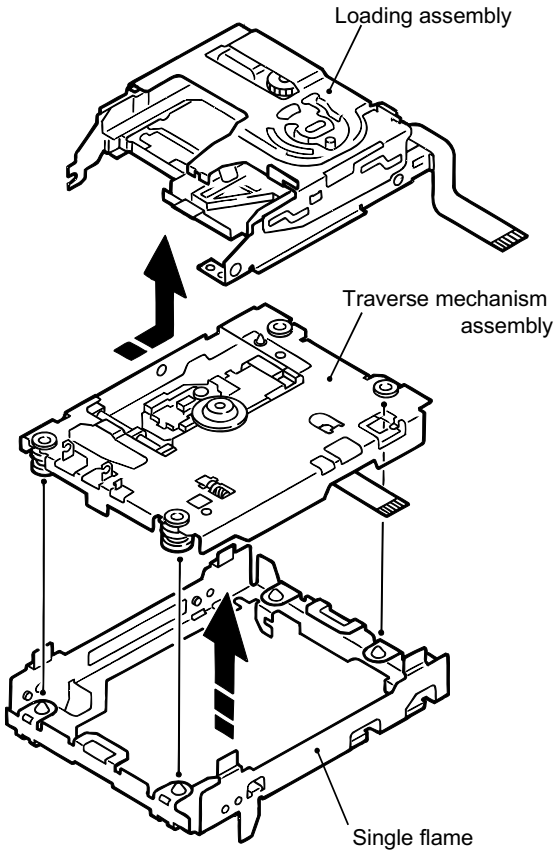


Fig.9

<Loading assembly>

■Removing the slide base (L) / (R) (See Fig.10)

1. Remove the two screws E on the upper side of the loading assembly.
2. Remove the slide base (L) outward. (Release it from the joint bosses E.)
3. Remove the slide base (R) outward.

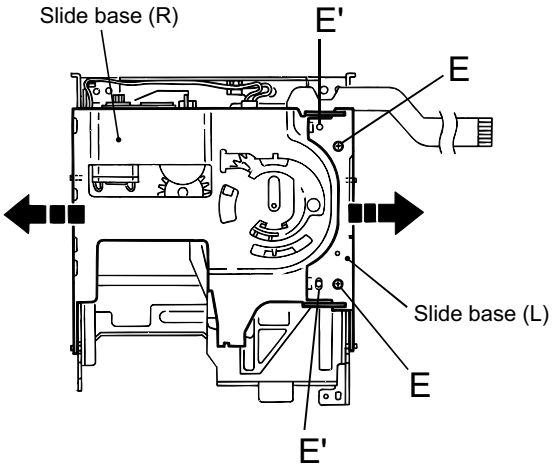


Fig.10

■Removing the loading mechanism assembly (See Fig.11)

1. Detach the loading mechanism assembly upward to release the four pins on both sides from the loading motor, paying attention to the part e of the loading mechanism base.

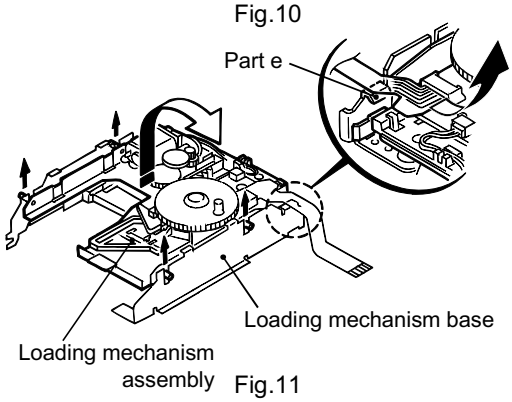


Fig.11

— **Loading mechanism assembly** —

■Removing the loading motor (See Fig.12 and 13)

1. Disconnect the harnesses from the wire holder and from connector CN612 on the cam switch board.
2. Remove the screw F attaching the loading motor and release the joint f.
3. Remove the belt from the loading motor assembly.
4. Remove the two screws G attaching the loading motor.

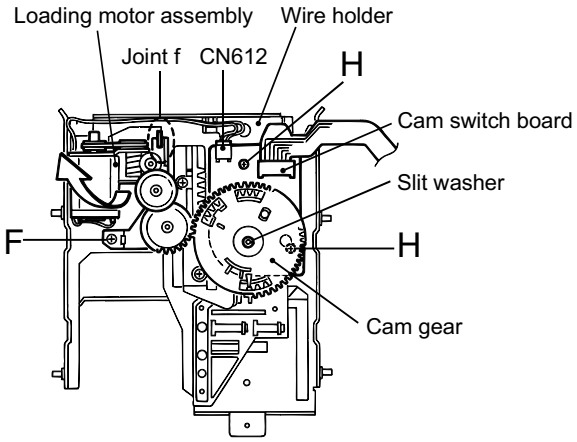


Fig.12

■Removing the cam gear and the cam switch board (See Fig.12)

1. Remove the slit washer attaching the cam gear and pull out the cam gear.
2. Disconnect the harness from the wire holder and from connector CN612 on the cam switch board.
3. Remove the two screws H and the clamp. Remove the cam switch board.

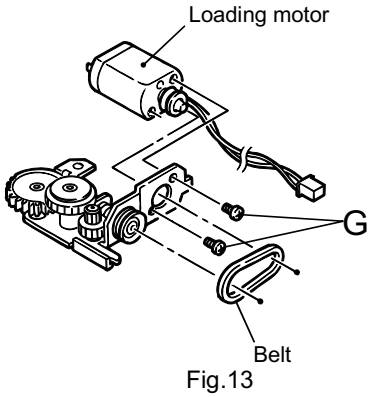


Fig.13

■Removing the cartridge holder assembly (See Fig.14 and 15)

1. Remove the two screws l on the upper side of the loading assembly.

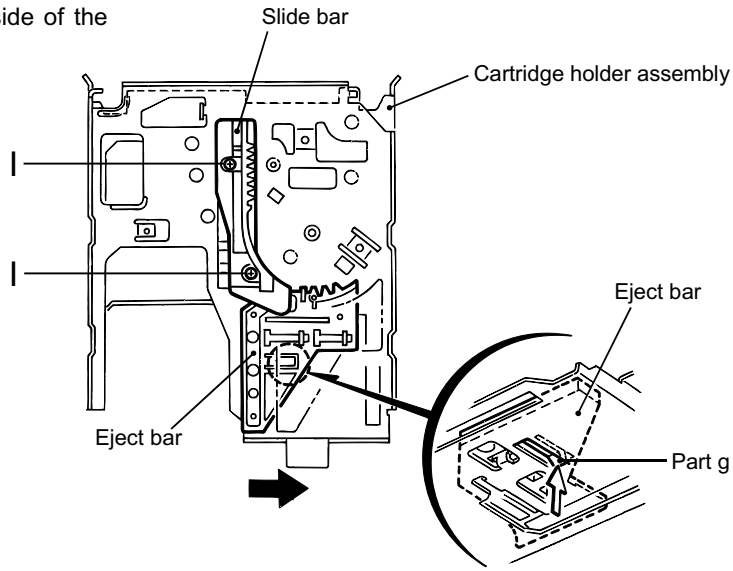


Fig.14

■ Removing the slide bar and the eject bar (See Fig.14 and 15)

・Prior to performing the following procedure, remove the cartridge holder assembly.

1. Remove the slide bar upward.

2. Move the eject bar outward until it stops as shown in Fig.14. Push the convex part g on the bottom of the body and remove the eject bar from the chassis.

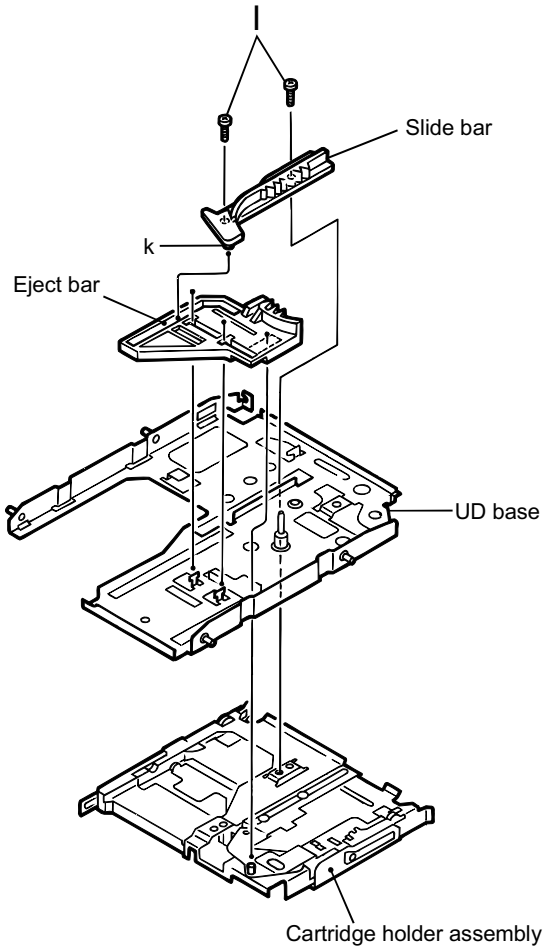


Fig.15

<Traverse mechanism assembly>

■Removing the Insulators (See Fig.16)

1. Disengage the four insulators from the notches of the traverse mechanism chassis.

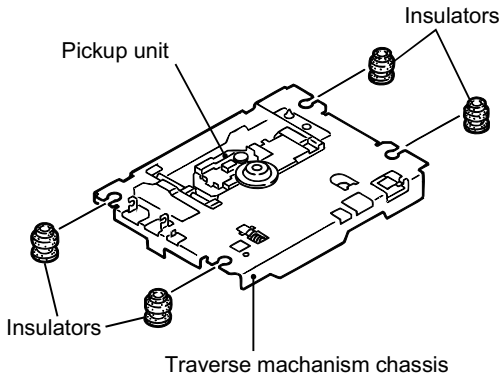


Fig.16

■Removing the pickup unit (See Fig.17)

1. Turn over the traverse mechanism assembly and remove the screw J attaching the shaft holder (F).

2. Move the shaft inward and remove it from the shaft holder (R).

3. Detach the shaft side of the pickup unit upward and release the joint h with the pickup guide. Then remove the pickup unit with the shaft.

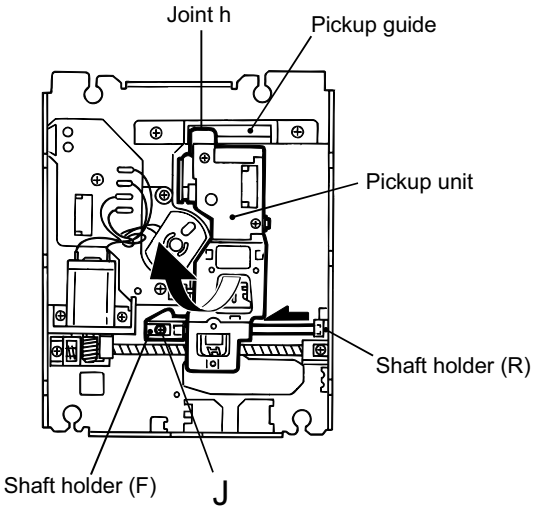


Fig.17

■Removing the pickup (See Fig.18)

1. Draw out the shaft from the pickup.

2. Remove the two screws K attaching the rack spring.

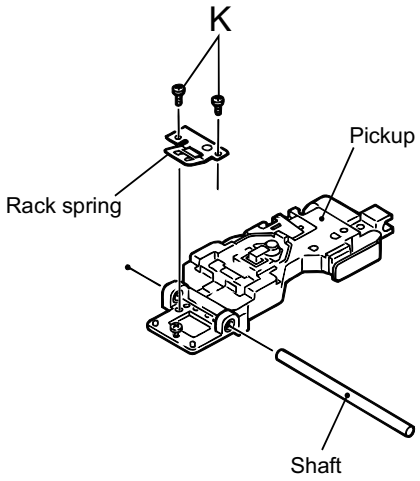


Fig.18

■Removing the feed motor assembly (See Fig.19-1, 19-2)

・It is not necessary to remove the pickup unit.

1. For the white and black harnesses extending from the feed motor assembly, unsolder the soldering i on the traverse mechanism board.

2. Remove the two screws L attaching the feed motor assembly.

3. Remove the two screws N attaching the feed motor bracket.

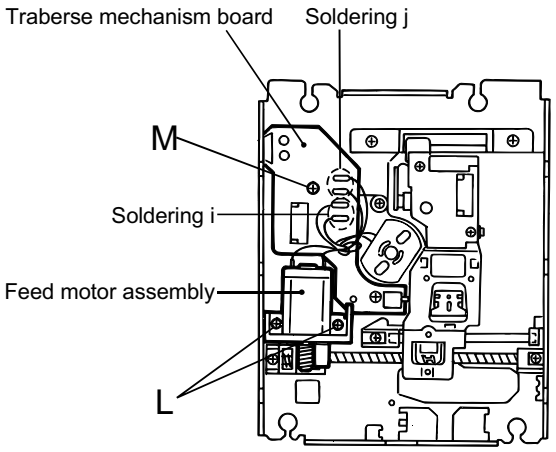


Fig.19-1

■Removing the traverse mechanism board (See Fig.19-1)

・Prior to performing procedure, remove the feed motor assembly.

1. For the red and black harnesses extending from the spindle motor, unsolder the soldering j on the traverse mechanism board.

2. Remove the screw M attaching the traverse mechanism board.

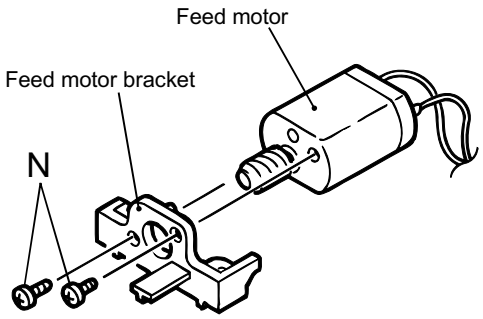


Fig.19-2

<Reattaching the loading assembly>

1. Reattach the eject bar to the UD base.
(Fig.15 and 20)

2. Reattach the slide bar to the loading mechanism chassis while fitting the boss marked k to the eject bar slot. (Fig.20)

3. Slide the slide bar and the eject bar in the direction of the arrow in Fig.20 and reattach the cartridge holder assembly using the two screws I.
(Fig.20 and 21)

ATTENTION: Make sure the pin of the eject lever marked l is fitted to the slot of the eject bar marked m at the bottom of the loading mechanism chassis after moving the eject lever and the loading slider of the cartridge holder assembly in the direction of the arrow.
(Refer to Fig.21)

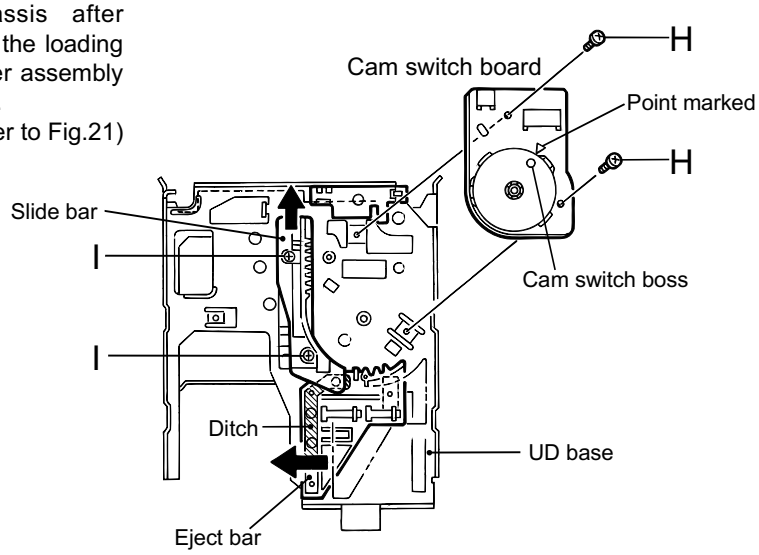


Fig.20

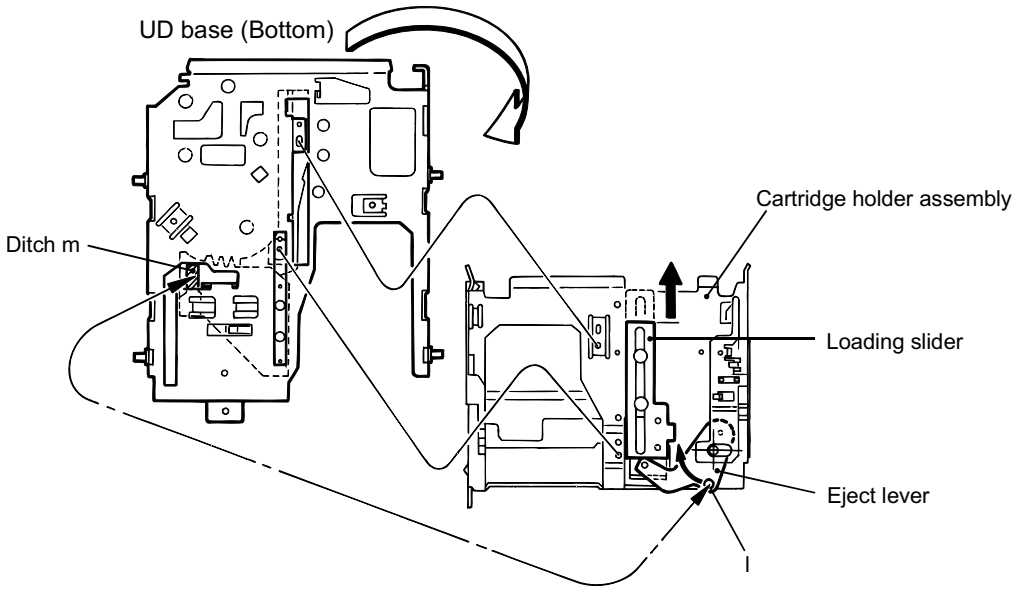


Fig.21

4. Reattach the wire holder to the UD base while engaging the UD base hook marked u to the wire holder slot marked t (At the same time, the boss on the reverse side of the wire holder is fitted to the UD base round hole).

5. Reattach the cam switch board using the two screws H. (Fig.22)

6. Turn the cam switch to bring the boss to the point marked △ on the cam switch board. Reattach the cam gear using a slit washer while fitting the cam gear slot to the cam switch boss. (Fig.22)

   ATTENTION: When reattaching the cam gear, the cam switch boss should be fitted to the cam gear slot, and the triangle mark of the cam gear should be aligned to the hole of the eject bar as shown in Fig.22.

7. Reattach the loading motor assembly, using the screw F. Connect the harness extending from the loading motor to connector CN612 on the switch board and fix it with the wire holder. (Fig.22)

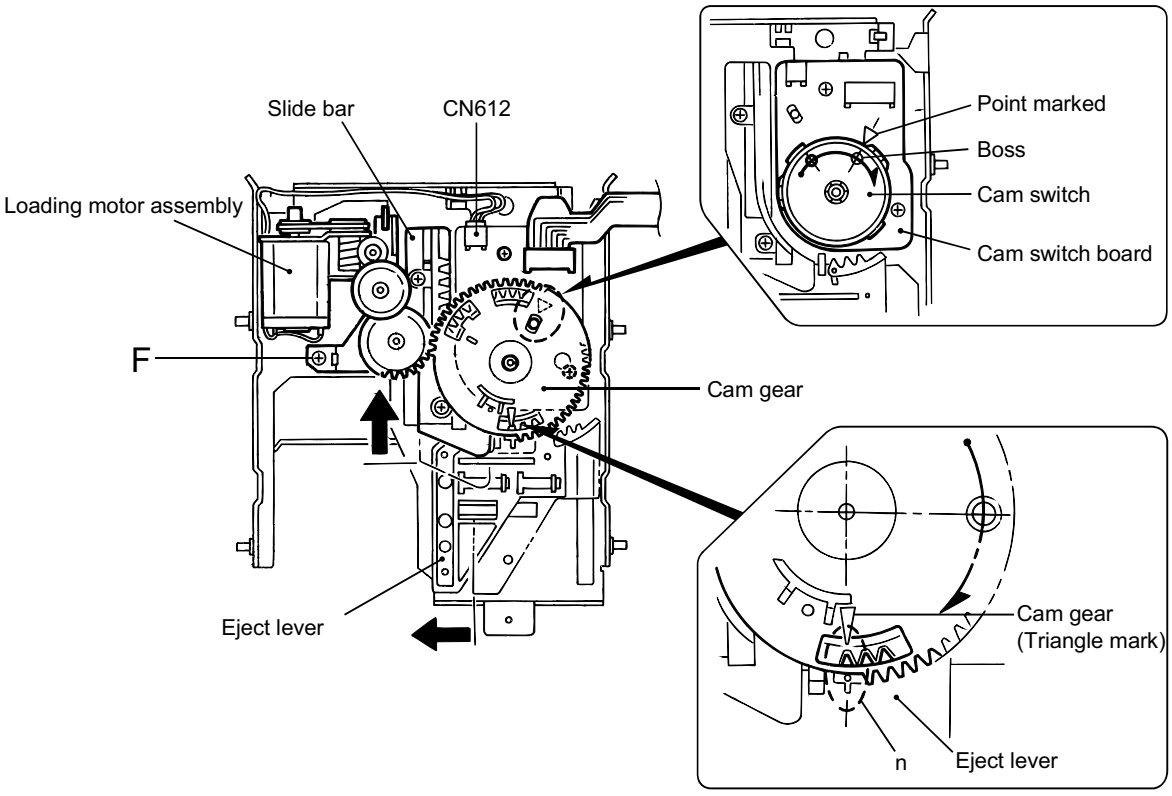


Fig.22

8. Reattach the UD base while engaging the four pins on both sides of the UD base to the notches of the loading mechanism base and placing the edge (marked e') of the cartridge holder assembly under the hook e of the loading mechanism base. (Fig.23)

9. Reattach the slide base (R) while fitting the two pins on another side of the UD base to the slots of the slide base (R). (Fig.24)

   ATTENTION: Fit the part v of the slide base (R) to the part w on the inward side of the cam gear rib. (Fig.25)

10. Reattach the slide base (L) on the slide base (R) while fitting the two pins on another side of the UD base to the slots of the slide base (L) (Fig.25). Make sure the two slots of the slide base (L) are fitted to the two bosses marked E' and tighten the two screws E. (Fig.26)

    Ref: To expedite the work, bring up the UD base slightly when fitting each pin to the appropriate notch.

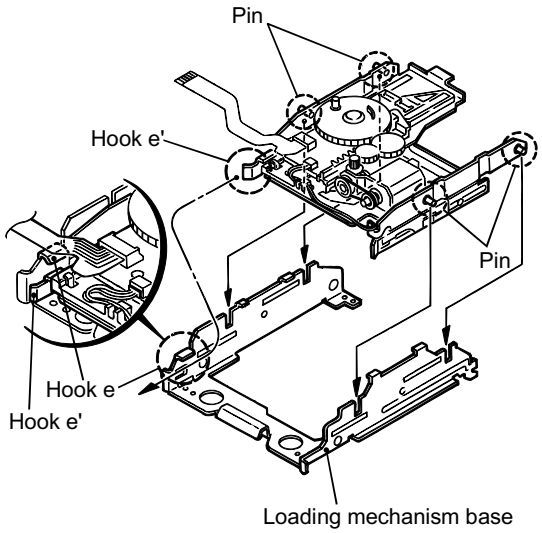


Fig.23

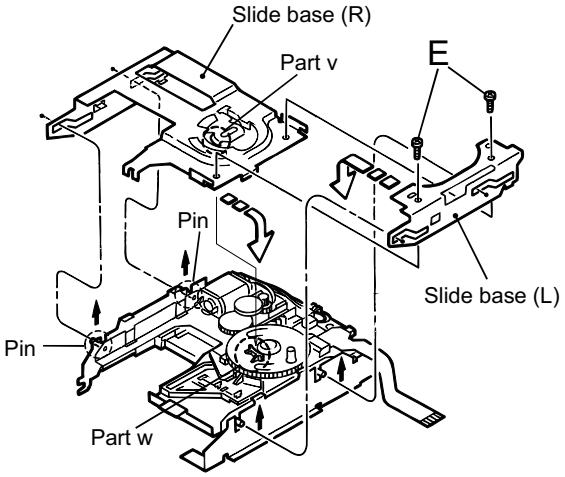


Fig.24

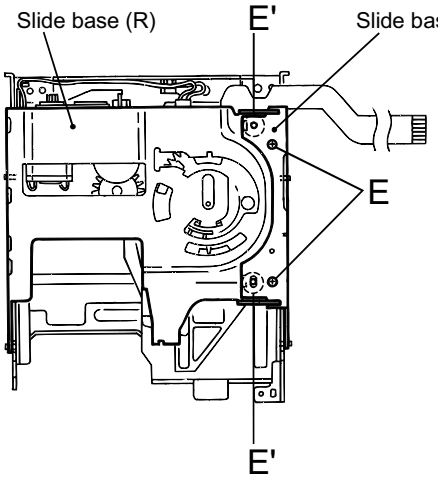


Fig.26

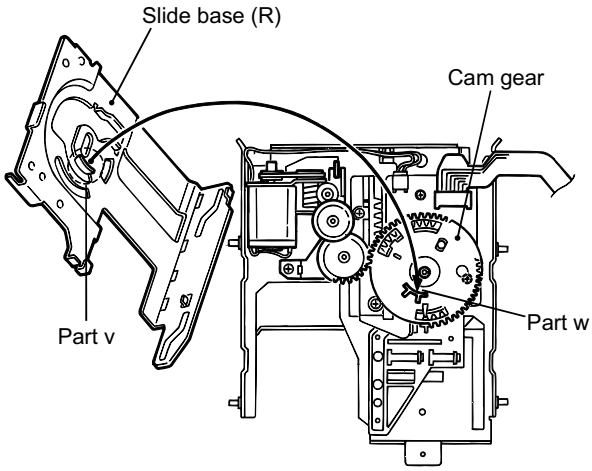


Fig.25

Adjustment Method (CD/MD section)

1. Jigs and test instruments

Laser power meter
Laser power meter sensor (or disk sensor)
Premastered disk (MRG-1018)
Recordable disk

2. Adjustment and check items

1) Indications in the modes that all LCD's are on

2) CD section

(1) Indication of the C1 error
(2) Cancel of the C1 error indication

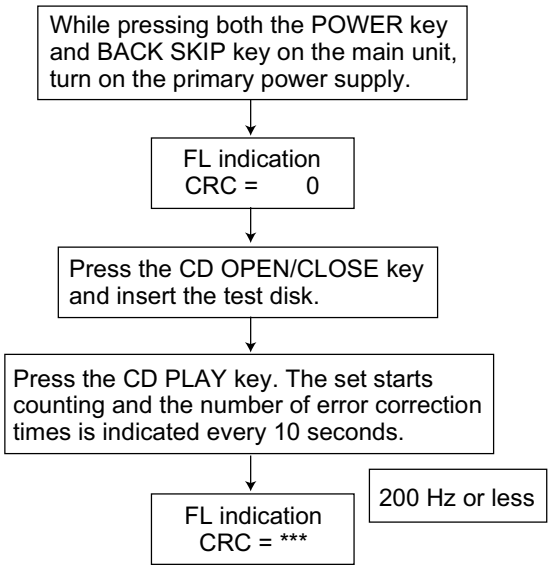
3) MD section

(1) Setup of the TEST MODE 1
(2) Initialization of the EEPROM
(3) Adjustment of the laser power
(4) Adjustment of the disk
(5) Setup of the TEST MODE 2
(6) Indication of variation in the pickup adjustment value
(7) Indication of the C1 error
(8) Cancel of the TEST MODE

3. Adjustment and check method

1) CD section

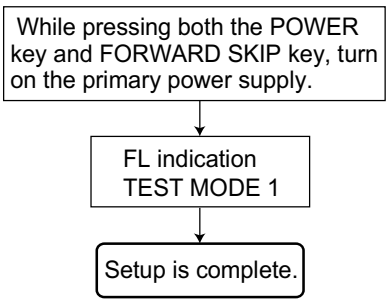
(1) Indication of the C1 error


While pressing both the POWER key and BACK SKIP key on the main unit, turn on the primary power supply.
FL indication
CRC = 0
Press the CD OPEN/CLOSE key and insert the test disk.
Press the CD PLAY key. The set starts counting and the number of error correction times is indicated every 10 seconds.
200 Hz or less
FL indication
CRC = ***

(2) Cancel of the C1 error indication
To cancel the C1 error indication, cut off the power supply.

2) MD section

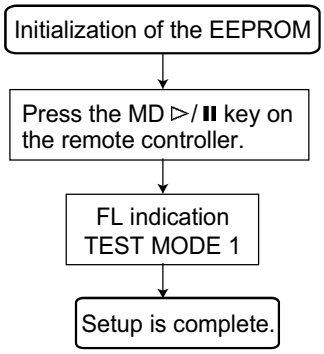
(1) Setup of the TEST MODE 1


While pressing both the POWER key and FORWARD SKIP key, turn on the primary power supply.
FL indication TEST MODE 1
Setup is complete.

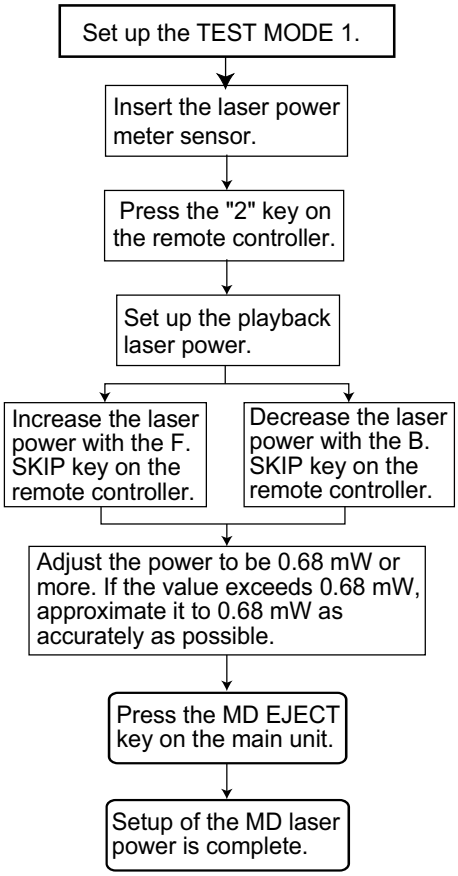
(2) Initialization of the EEPROM

(The EEPROM can be initialized on the precondition that the setup of the TEST MODE 1 is complete. After setup of the TEST MODE 1, proceed to the following operations with the remote controller*.)

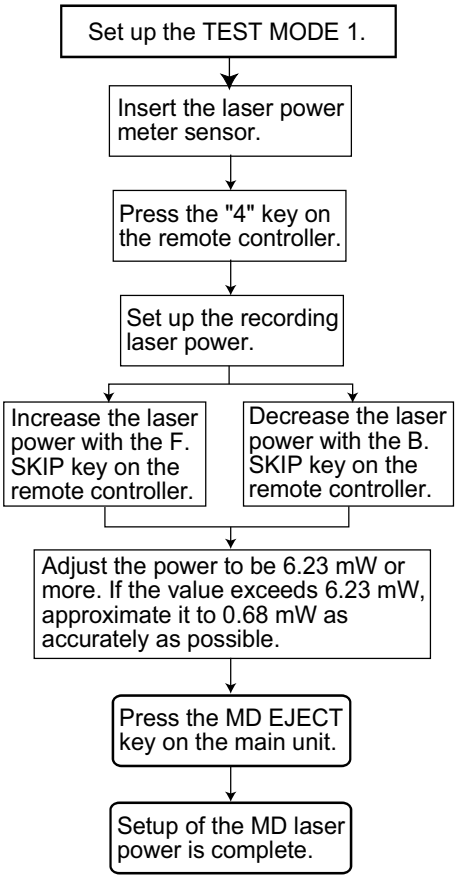
* For EJECT operation, use the EJECT key on the main unit.



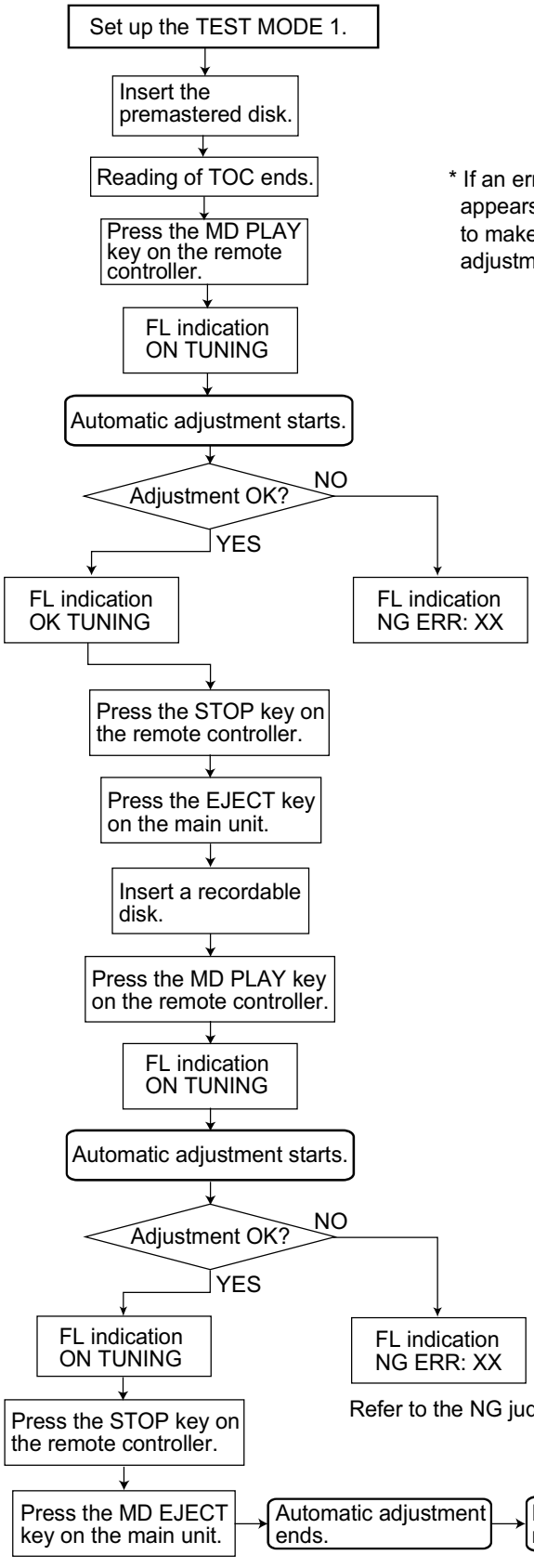
(3) Adjustment of the playback laser power


Set up the TEST MODE 1.
Insert the laser power meter sensor.
Press the "2" key on the remote controller.
Set up the playback laser power.
Increase the laser power with the F. SKIP key on the remote controller.
Decrease the laser power with the B. SKIP key on the remote controller.
Adjust the power to be 0.68 mW or more. If the value exceeds 0.68 mW, approximate it to 0.68 mW as accurately as possible.
Press the MD EJECT key on the main unit.
Setup of the MD laser power is complete.

(4) Adjustment of the recording laser power


Set up the TEST MODE 1.
Insert the laser power meter sensor.
Press the "4" key on the remote controller.
Set up the recording laser power.
Increase the laser power with the F. SKIP key on the remote controller.
Decrease the laser power with the B. SKIP key on the remote controller.
Adjust the power to be 6.23 mW or more. If the value exceeds 6.23 mW, approximate it to 0.68 mW as accurately as possible.
Press the MD EJECT key on the main unit.
Setup of the MD laser power is complete.

(5) Adjustment of the disk


Set up the TEST MODE 1.
Insert the premastered disk.
Reading of TOC ends.
Press the MD PLAY key on the remote controller.
FL indication ON TUNING
Automatic adjustment starts.
Adjustment OK?
NO
YES
FL indication OK TUNING
FL indication NG ERR: XX
Press the STOP key on the remote controller.
Press the EJECT key on the main unit.
Insert a recordable disk.
Press the MD PLAY key on the remote controller.
FL indication ON TUNING
Automatic adjustment starts.
Adjustment OK?
NO
YES
FL indication ON TUNING
FL indication NG ERR: XX
Press the STOP key on the remote controller.
Press the MD EJECT key on the main unit.
Automatic adjustment ends.
Press the POWER key on the main unit or remote controller.
Cut off the power supply after cancelling the TEST MODE.

* If an error indication of "ERR:07" appears at the first adjustment, try to make a fresh start of the same adjustment.

XX: Refer to the NG judgment code table.

Refer to the NG judgment code table.

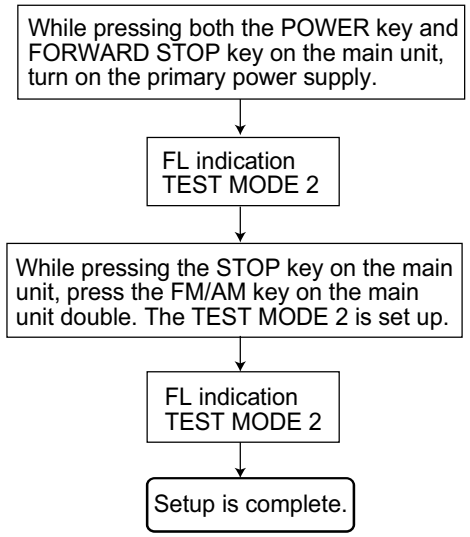
NG Judgment Code Table

Code	NG item in adjustment
00	Automatic adjustment is incomplete.
01	Rest switch detection
02	Focus-on
03	EF balance, tracking offset adjustment (Pit area)
04	ABCD level (I-V resistance) adjustment (Pit area)
05	Focus servo AGC (Pit area)
06	Tracking servo AGC (Pit area)
07	Focus bias adjustment (Pit area)
08	EF balance, tracking offset adjustment (GRV area)
09	ABCD level (I-V resistance) adjustment (GRV area)
0A	Focus servo AGC (GRV area)
0B	Tracking servo AGC (GRV area)
0C	Focus bias adjustment (GRV area)
0D	Room temperature measurement
0E	Write in EEPROM
10	(Focus, TRK, SLED) AGC data read time-out
20	Pit area spindle lock
30	Groove area spindle lock
XX	Automatic adjustment is complete.

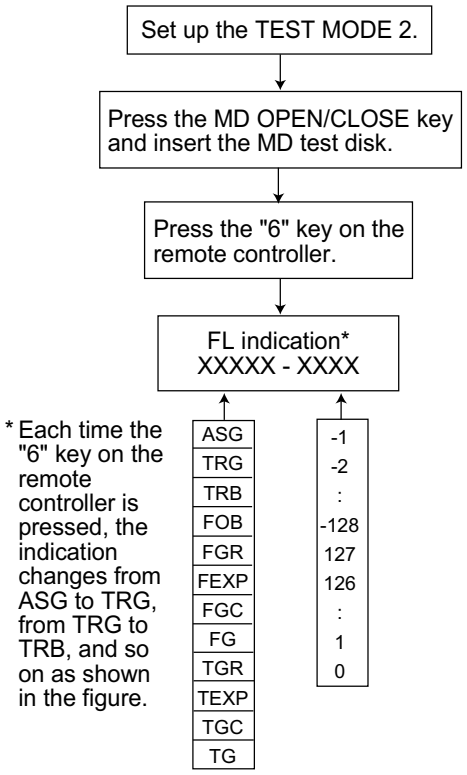
For investigating the mode in which an error occurred during the disk adjustment, freeze the set in the mode by pressing the proper key (refer to the table on the right) on the remote controller before cancelling the TEST MODE 1.

Key to press	Mode
SLEEP key (Remote controller)	FOCUS SEARCH
"6" key (Remote controller)	PIT ROUGH SERVO
"7" key (Remote controller)	GROOVE ROUGH SERVO
"8" key (Remote controller)	TRACKING ON
"9" key (Remote controller)	TRACKING OFF
STOP key (Remote controller)	STOP
EJECT key (Main unit)	EJECT

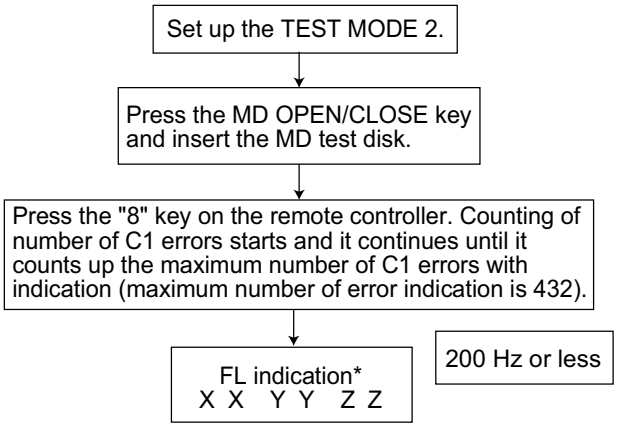
(6) Setup of the TEST MODE 2


While pressing both the POWER key and FORWARD STOP key on the main unit, turn on the primary power supply.
FL indication TEST MODE 2
While pressing the STOP key on the main unit, press the FM/AM key on the main unit double. The TEST MODE 2 is set up.
FL indication TEST MODE 2
Setup is complete.

(7) Indication of variation in the pickup adjustment value



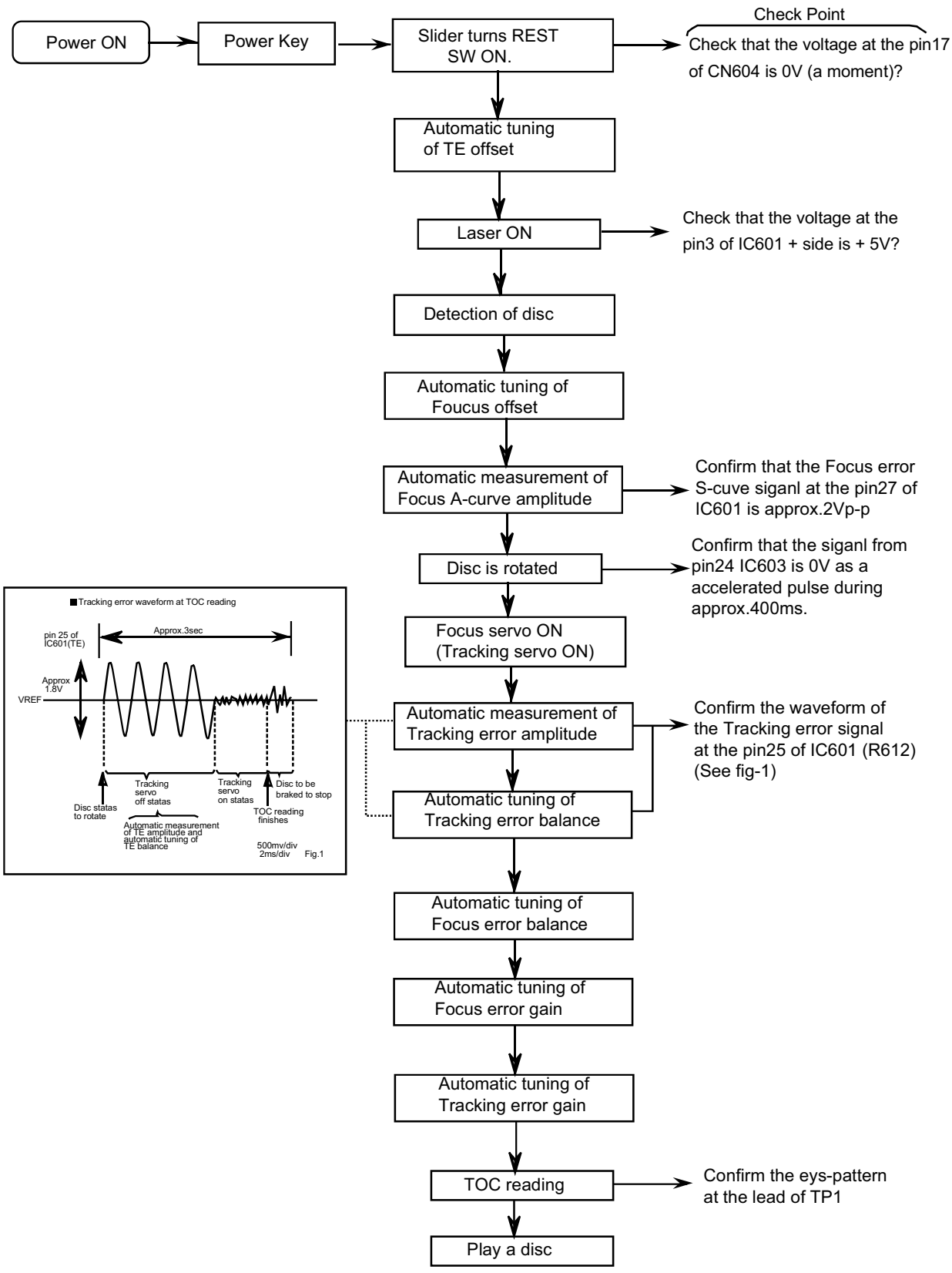
(8) Indication of the C1 error


Set up the TEST MODE 2.
Press the MD OPEN/CLOSE key and insert the MD test disk.
Press the "8" key on the remote controller. Counting of number of C1 errors starts and it continues until it counts up the maximum number of C1 errors with indication (maximum number of error indication is 432).
FL indication* X X Y Y Z Z
200 Hz or less

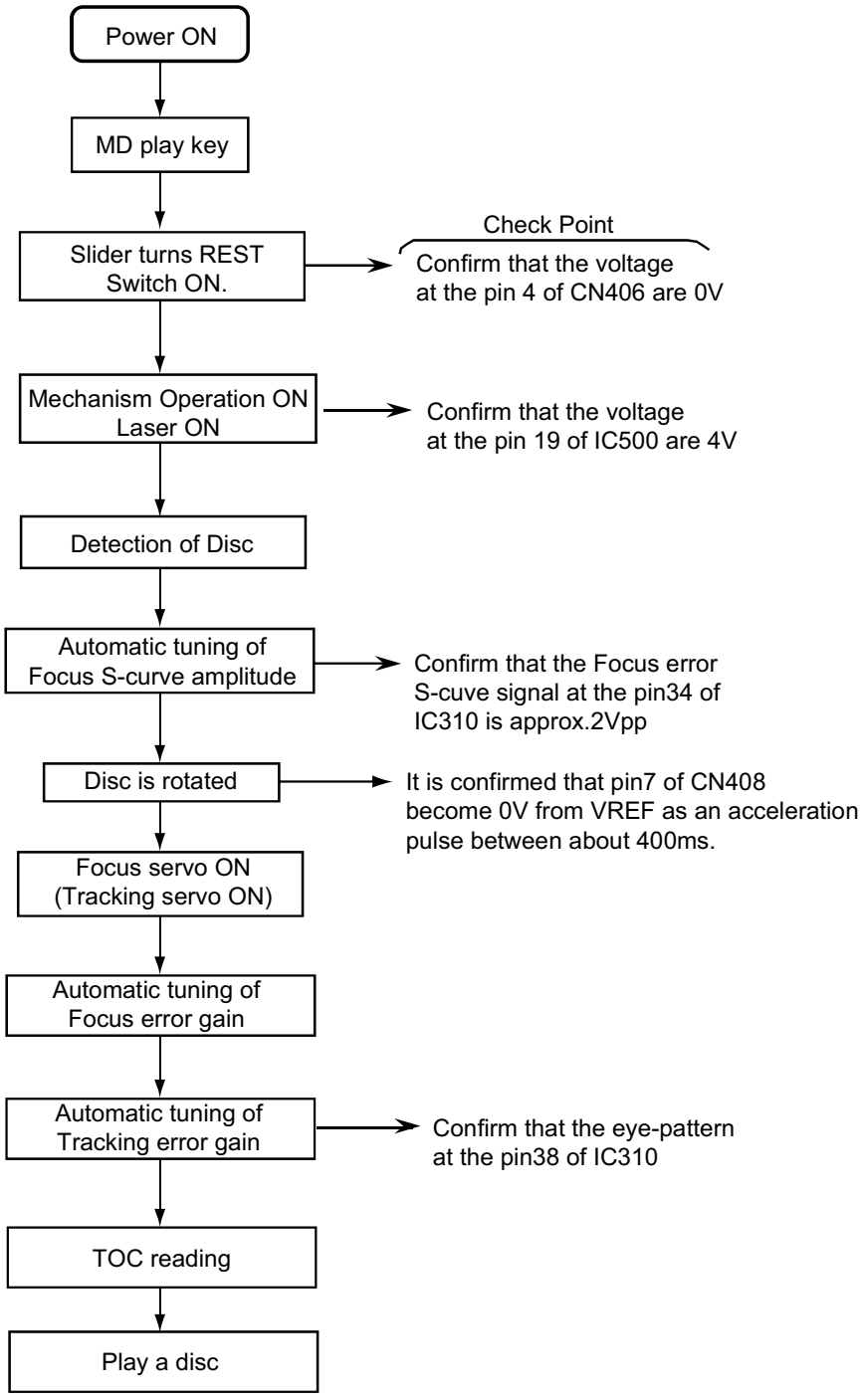
(9) Cancel of the TEST MODE
(The cancel operation is common to the TEST MODE 1 and 2.)

Cut off the primary power supply to cancel the TEST MODE.

Flow of functional operation until TOC read (CD)


Power ON
Power Key
Slider turns REST SW ON.
Check Point
Check that the voltage at the pin17 of CN604 is 0V (a moment)?
Automatic tuning of TE offset
Laser ON
Check that the voltage at the pin3 of IC601 + side is + 5V?
Detection of disc
Automatic tuning of Foucus offset
Automatic measurement of Focus A-curve amplitude
Confirm that the Focus error S-cuve siganl at the pin27 of IC601 is approx.2Vp-p
Disc is rotated
Confirm that the siganl from pin24 IC603 is 0V as a accelerated pulse during approx.400ms.
Focus servo ON (Tracking servo ON)
Automatic measurement of Tracking error amplitude
Confirm the waveform of the Tracking error signal at the pin25 of IC601 (R612) (See fig-1)
Automatic tuning of Tracking error balance
Automatic tuning of Focus error balance
Automatic tuning of Focus error gain
Automatic tuning of Tracking error gain
TOC reading
Confirm the eys-pattern at the lead of TP1
Play a disc
■Tracking error waveform at TOC reading
pin 25 of IC601(TE)
Approx.3sec
Approx 1.8V
VREF
Disc statas to rotate
Tracking servo off statas
Automatic measurement of TE amplitude and automatic tuning of TE balance
Tracking servo on statas
TOC reading finishes
Disc to be braked to stop
500mv/div
2ms/div
Fig.1

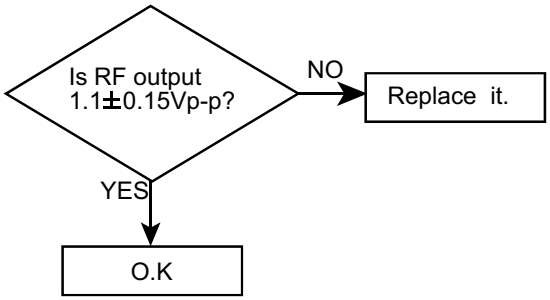
Flow of functional operation until TOC read (MD)


Power ON
MD play key
Slider turns REST Switch ON.
Check Point
Confirm that the voltage at the pin 4 of CN406 are 0V
Mechanism Operation ON Laser ON
Confirm that the voltage at the pin 19 of IC500 are 4V
Detection of Disc
Automatic tuning of Focus S-curve amplitude
Confirm that the Focus error S-cuve signal at the pin34 of IC310 is approx.2Vpp
Disc is rotated
It is confirmed that pin7 of CN408 become 0V from VREF as an acceleration pulse between about 400ms.
Focus servo ON (Tracking servo ON)
Automatic tuning of Focus error gain
Automatic tuning of Tracking error gain
Confirm that the eye-pattern at the pin38 of IC310
TOC reading
Play a disc

Maintenance of laser pickup

(1) Cleaning the pick up lens
Befor you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

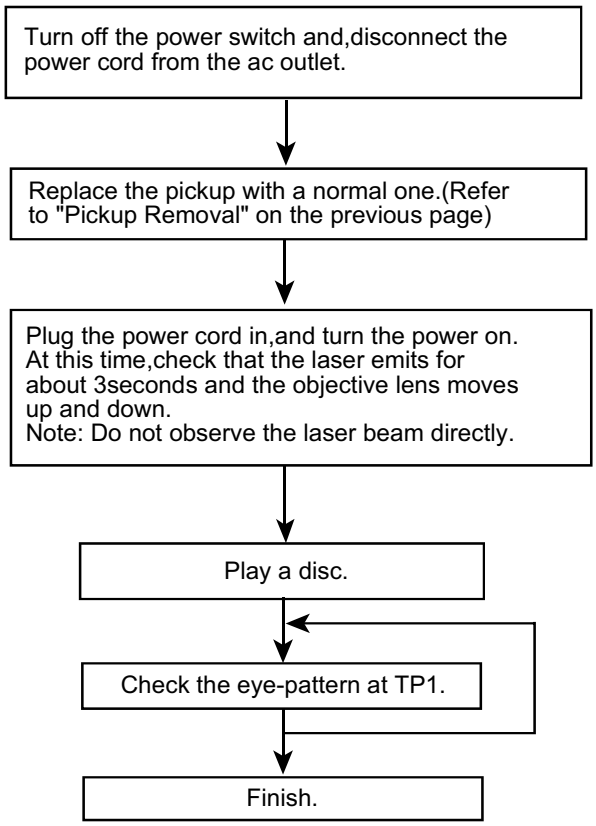
(2) Life of the laser diode (Fig.1)
When the life of the laser diode has expired, the following symptoms wil appear.
(1) The level of RF output (EFM output:amplitude of eye pattern) will below.



(Fig.1)

(3) Semi-fixed resistor on the APC PC board
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power.Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value,the laser diode is almost worn out, and the laser pickup should be replaced.
If the semi-fixed resistor is adjusted while the pickup is functioning normally,the laser pickup may be damaged due to excessive current.

Replacement of laser pickup


Turn off the power switch and,disconnect the power cord from the ac outlet.
Replace the pickup with a normal one.(Refer to "Pickup Removal" on the previous page)
Plug the power cord in,and turn the power on. At this time,check that the laser emits for about 3seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.
Play a disc.
Check the eye-pattern at TP1.
Finish.

Maintenance of MD pickup

1. Cleaning of pickup lens

(1) Prior to changing the pickup, clean the pickup lens.

(2) For cleaning the lens, use the following cotton swab after mearsing it in alcohol.

Product No. JCB-B4; Manufacturer;Nippon Cotton Swab

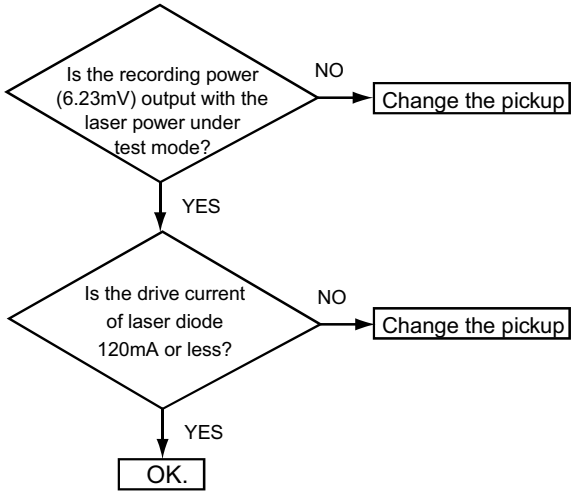
2. Confirmation of the service life of laser diode when the service life of the laser diode has been exhausted, the following symptoms will appear.

(1) Recording will become impossible.

(2) The RF output (EFM output and eye pattern amplitude) will become lower.

(3) The drive current required for light emitting of laser diode will be increased.

Confirm the service life according to the following flow chart:

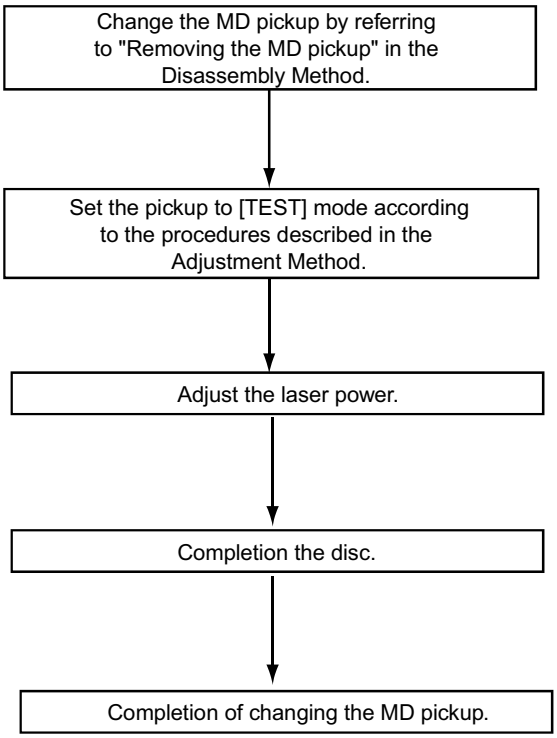


3. Method of measuring the drive current of laser diode

When the voltage measured at TP ILCC (Q301 emitter) and +5V (Q303 emitter) of the MD servo P.C. board (ENX-0223) have become 600mV or over, the service life of the laser diode is judged to have been exhausted.

[Caution] When TP ILCC (Q301 collector) and +5V (Q303 emitter have been is short circuit on such an occasion, then the laser diode will be broken. Therefore, take utmost care in handling the MD pickup.

Procedures of changing the MD pickup


Change the MD pickup by referring to "Removing the MD pickup" in the Disassembly Method.
Set the pickup to [TEST] mode according to the procedures described in the Adjustment Method.
Adjust the laser power.
Completion the disc.
Completion of changing the MD pickup.

Since this system is designed to perform magnetic recording, the laser power ten times or over of the conventional MD player will be output. Therefore, be sure to perform not only adjustment and operation of this system so carefully as not to directly look at the laser beam or touch on the body.

4. Semi-solid state resistors on the APC P.C. board

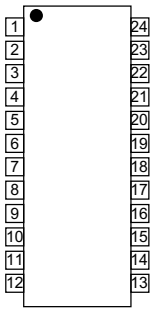
The semi-solid state resistor on the APC P.C.board attached to the pickup is used for adjusting the laser power. Since these resistor should be adjusted in pair according to the characteristics of the optical block, be sure not to touch on the resistors.

Since the service life of the laser diode will be exhausted when the laser power is low, it is necessary to change the pickup. Meanwhile, do not pickup. Otherwise, the pickup will be damaged due to over current.

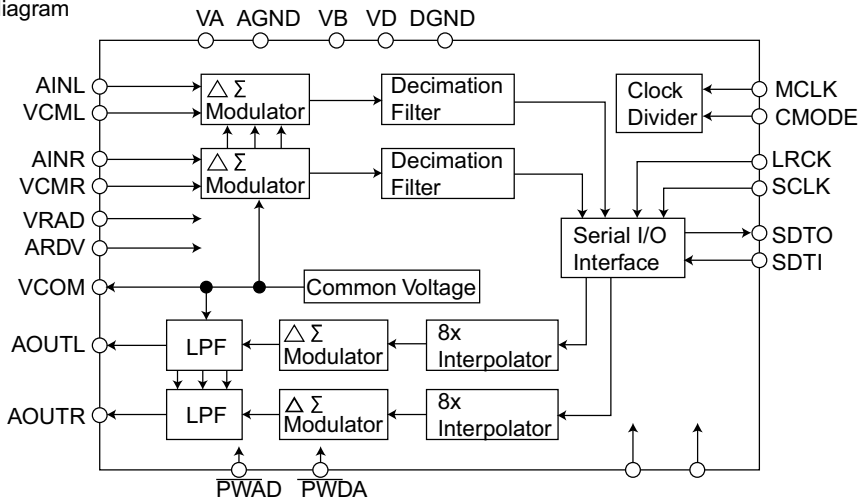
Description of major ICs

■ AK4519VF-X (IC480) : A / D D / A converter

1.Pin layout



2.Block diagram

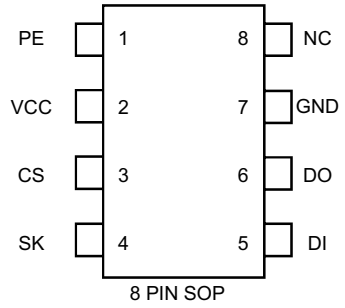


3.Pin Function

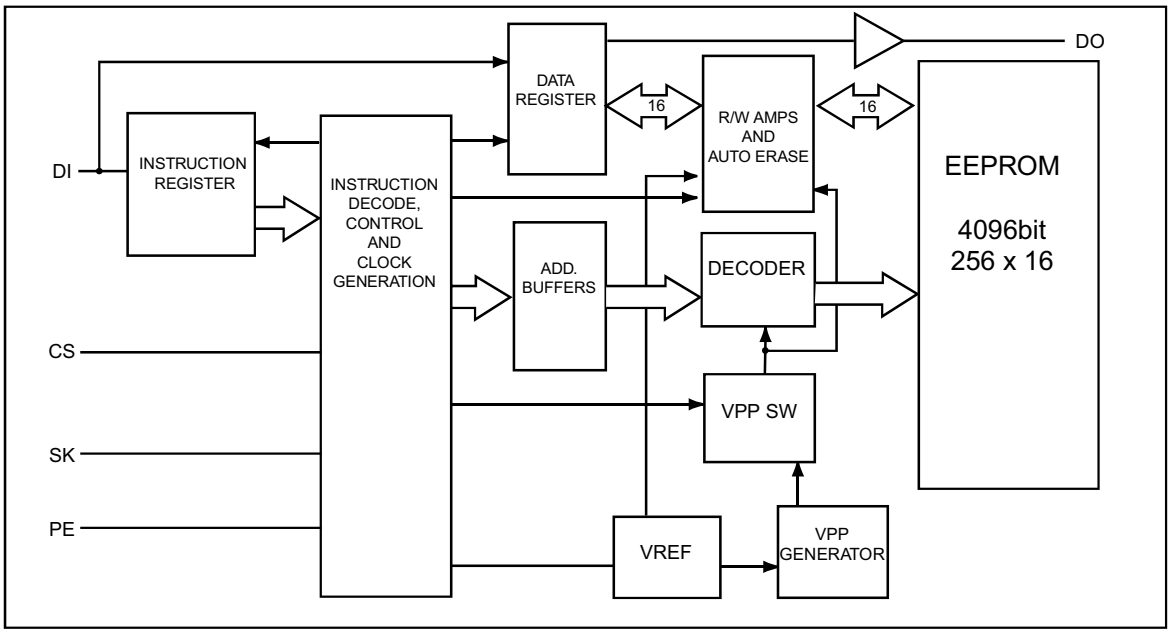
Pin NO.	Symbol	I/O	Function
1	VRDA	I	Voltage Reference Input Pin for DAC, VA
2	VRAD	I	Voltage Reference Input Pin for ADC, VA
3	AINR	I	RCH Analog Input Pin
4	VCMR	O	Rch Common Voltage Output Pin, 0.45xVA
5	VCML	O	Lch Common Voltage Output Pin, 0.45xVA
6	AINL	I	Lch Analog Input Pin
7	PWAD	I	ADC Power-Down Mode Pin "L":Power Down
8	PWDA	I	DAC Power-Down Mode Pin "L":Power Down
9	MCLK	I	Master Clock Input Pin
10	LRCK	I	Input/Output Channel Clock Pin
11	SCLK	I	Audio Serial Data Clock Pin
12	SDTO	O	Audio Serial Data Output Pin
13	DGND	-	Digital Ground Pin
14	VD	-	Digital Power Supply Pin
15	SDTI	I	Audio Serial Data Input Pin
16	CMODE	I	Master Clock Select Pin
17	DEM1	I	De-emphasis Frequency Select Pin
18	DEM0	I	De-emphasis Frequensy Select Pin
19	AOUTL	O	Lch Analog Output Pin
20	AOUTR	O	Rch Analog Output Pin
21	VCOM	O	Common Voltage Output Pin, 0.45xVA
22	AGND	-	Analog Ground Pin
23	VB	-	Substrate Pin
24	VA	-	Analog Power Supply Pin

■ AK93C65AF-X (IC590) : EEPROM

1.Pin layout



2.Block diagram



3.Pin function

Pin no.	Symbol	Function
1	PE	Program enable (With built-in pull-up resistor)
2	VCC	Power supply
3	CS	Chip selection
4	SK	Cereal clock input
5	DI	Cereal data input
6	DO	Cereal data output
7	GND	Ground
8	NC	No connection

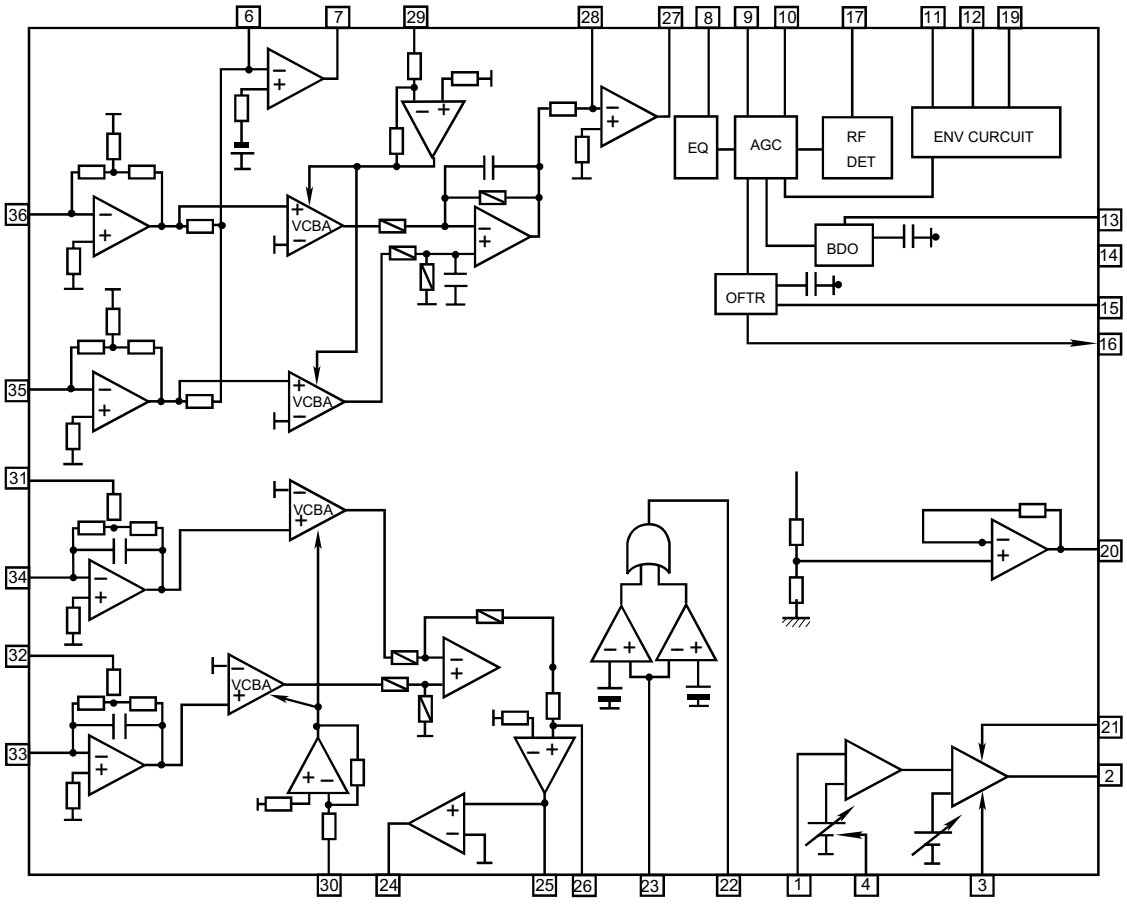
NOTE : The pull-up resistor of the PE pin is about 2.5M Ω (VCC=5V)

■ AN8806SB-W (IC601) : RF&Servo AMP

1.Pin layout

PD	1	36	PDAC
LD	2	35	PDBD
LDON	3	34	PDF
LDP	4	33	PDE
VCC	5	32	PDER
RF-	6	31	PDFR
RF OUT	7	30	TBAL
RF IN	8	29	FBAL
C.AGC	9	28	EF-
ARF	10	27	EF OUT
C.ENV	11	26	TE-
C.EA	12	25	TE OUT
CS BDO	13	24	CROSS
BDO	14	23	TE BPF
CS BRT	15	22	VDET
OFTR	16	21	LD OFF
/NRFDET	17	20	VREF
GND	18	19	ENV

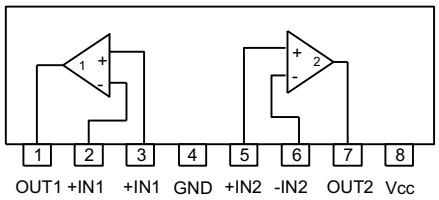
2.Block diagram



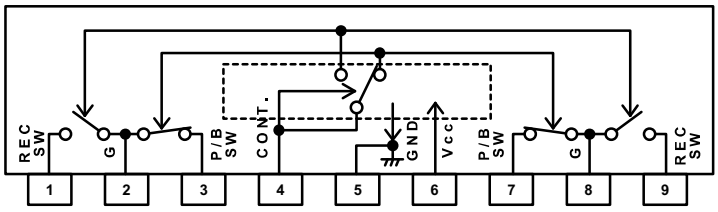
3. Pin function

Pin No.	Symbol	I/O	Function
1	PD	I	APC amp input terminal
2	LD	O	APC amp output terminal
3	LD ON	I	APC ON/OFF control terminal
4	LDP	--	Connect to ground
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RFamp output
8	RF IN	I	RF input
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	RF output
11	C.ENV	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
12	C.EA	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
13	CS BDO	I/O	A capacitor is connected to detect the lower envelope of RF signal
14	BDO	O	BDO output pin
15	CS BRT	I/O	A capacitor is connected to detect the lower envelope of RF signal
16	OFTR	O	Of-track status signal output
17	/NRFDET	O	RF detection signal output
18	GND	--	Ground
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output
21	LD OFF	--	Connect to ground
22	VDET	O	Vibration detection signal output
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output
25	TE OUT	O	Tracking error signal output
26	TE-	I	Inverse input pin for tracking error amp
27	FE OUT	O	Output pin of focus error
28	FE-	I	Inverse input pin for focus error amp
29	FBAL	I	Focus balance control
30	TBAL	I	Tracking balance control
31	PDFR	I/O	F I-V amp gain control
32	PDER	I/O	E I-V amp gain control
33	PDF	I	I-V amp input
34	PDE	I	I-V amp input
35	PD BD	I	I-V amp input
36	PD AC	I	I-V amp input

■ BA15218N (IC32 / IC35) : Dual Ope. Amp.

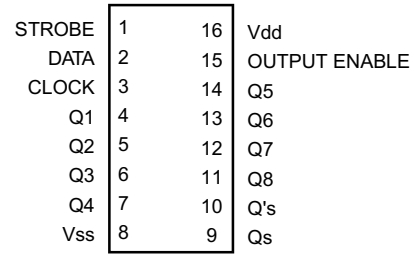


■ BA3126N(IC31) : R/P Switch

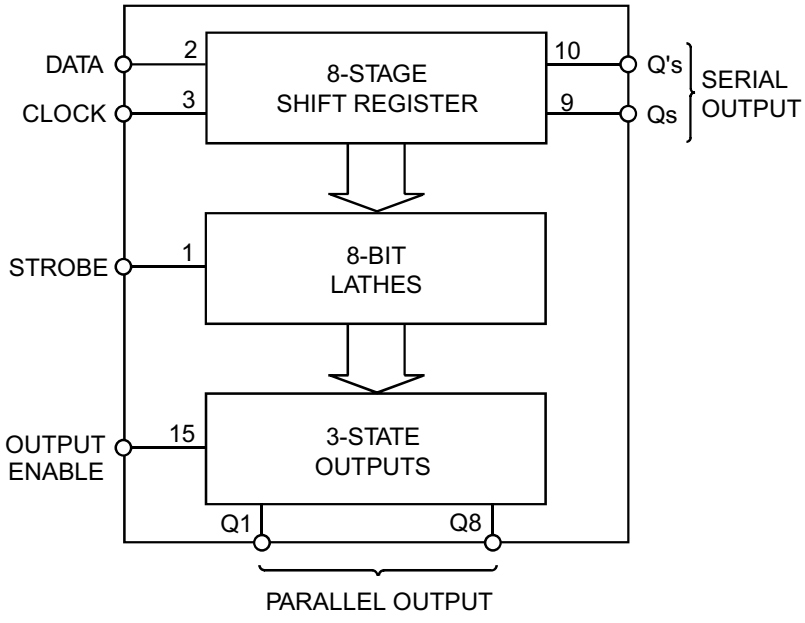


■ BU4094B(IC811):Serial to parallel port extension

1.Pin layout

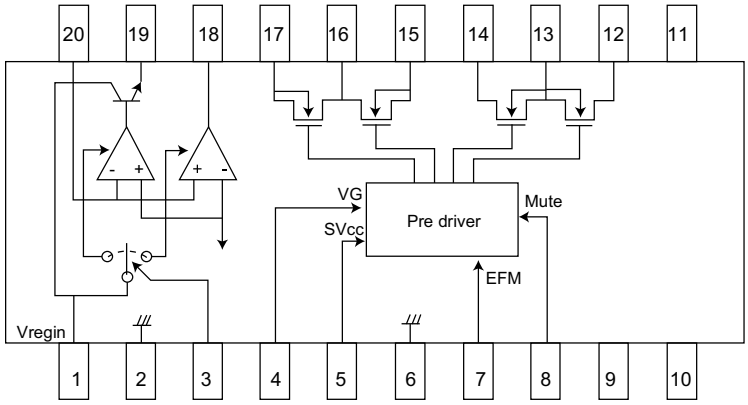


2.Block diagram



■ BD7910FV-X (IC450) : Pre driver

1.Block diagram

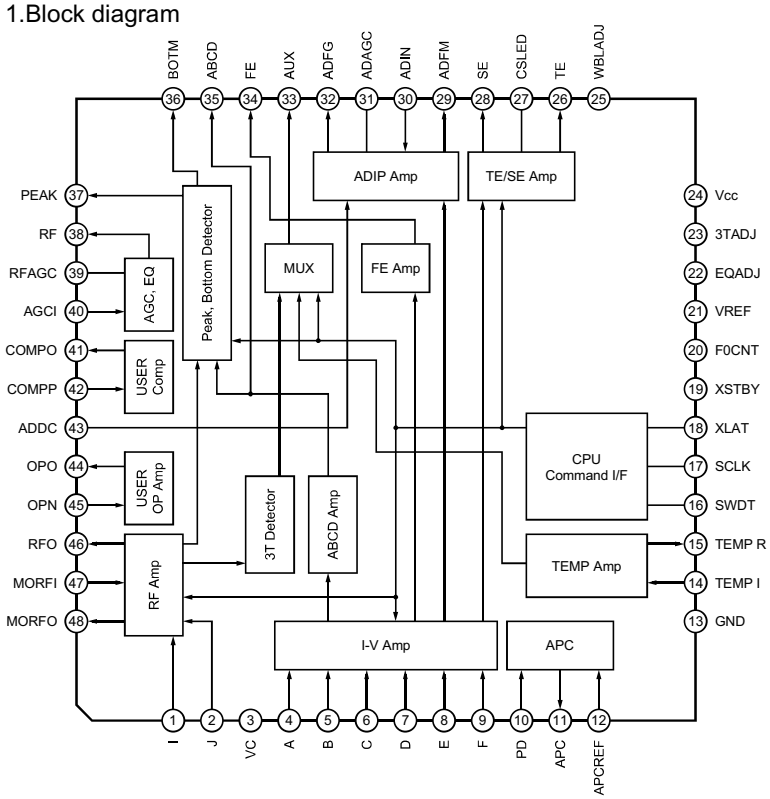


2.Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	Vreg IN	I	Regulator input and regulator power supply	11	NC	-	Non connect
				12	VOD2	O	Sync.output (Lower power MOS,drain)
2	Reg GN	-	Regulator GND	13	VSS	-	"H"bridge GND (Lower power MOS,source)
3	NC	-	Non connect	14	VOD1	O	Sync.output (Lower power MOS,drain)
4	VG	I	Voltage input for power MOS drive	15	VOS1	O	Source output (Upper power MOS,source)
5	SVCC	O	EFM high level output voltage	16	VDD	-	"H" bridge power supply terminal (Upper power MOS,source)
6	PDGND	-	Pre-driver GND				
7	EFM	I	EFM signal input	17	VOS2	O	Source output (Upper power MOS,source)
8	MUTE	I	Mute control (Low active)	18	Reg DRV	O	External PNP drive output for regulator
9	NC	O	Non conncet	19	Reg OUT	O	Reglator output (Emitter follower output)
10	NC	O	Non connect	20	Reg NF	-	Regulator feedbaack terminal

■ CXA2523AR (IC310) : MD servo

1.Block diagram



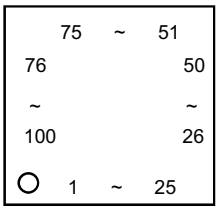
2.Pin function

Pin No.	Symbol	I/O	Function
1	I	I	I-V converted RF signal I input.
2	J	I	I-V converted RF signal J input.
3	VC	O	Vcc/2 voltage output.
4	A	I	A current input for main beam servo signal.
5	B	I	B current input for main beam servo signal.
6	C	I	C current input for main beam servo signal.
7	D	I	D current input for main beam servo signal.
8	E	I	E current input for side beam servo signal.
9	F	I	F current input for side beam servo signal.
10	PD	I	Reflection light quantity monitor signal input.
11	APC	O	Laser APC output.
12	APCREF	I	Reference voltage input for the laser power intensity setting.
13	GND	-	Connect to GND.
14	TEMPI	I	Connects the temperature sensor.
15	TEMP R	I	Connects the temperature sensor. outputs the reference voltage.
16	SWDT	I	Data input for microcomputer serial interface.
17	SCLK	I	Shift clock input for microcomputer serial interface.
18	XLAT	I	Latch signal input for microcomputer serial interface.Latched when low.
19	XSTBY	I	Standby setting pin. Normal operation when high Standby when low.
20	F0CNT	I	Internal current source setting pin.

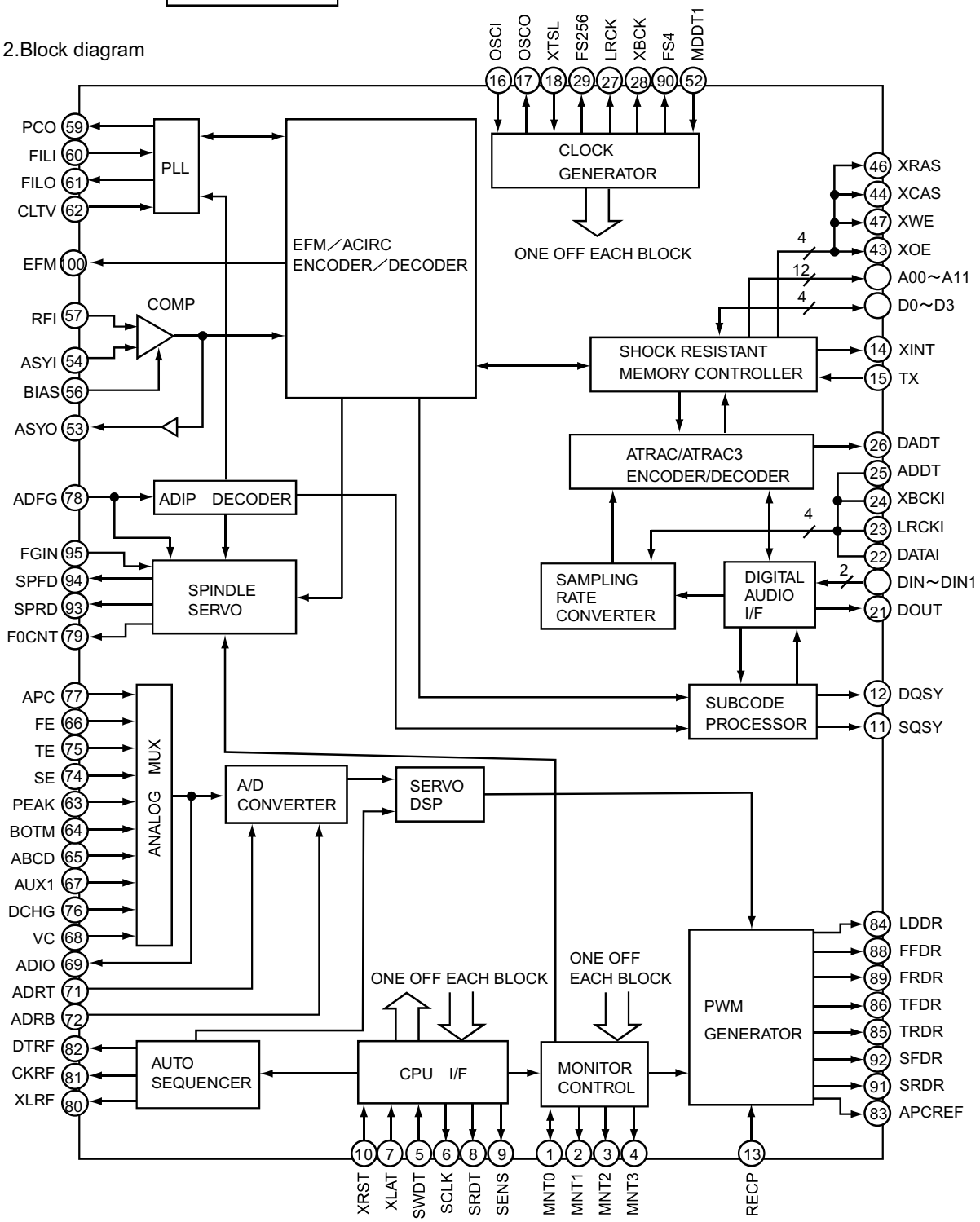
Pin No.	Symbol	I/O	Function
21	VREF	O	Reference voltage output.
22	EQADJ	I/O	Equalizer center frequency setting pin.
23	3TADJ	I/O	BPF3T center frequency setting pin.
24	Vcc	-	Power supply.
25	WBLADJ	I/O	BPF22 center frequency setting pin.
26	TE	O	Tracking error signal output.
27	CSLED	-	Connects the sled error signal LPF capacitor.
28	SE	O	Sled error signal output.
29	ADFM	O	ADIP FM signal output.
30	ADIN	I	ADIP signal comparator input.
31	ADAGC	-	Connects the ADIPAGC capacitor.
32	ADFG	O	ADIP2 binary value signal output.
33	AUX	O	13 output / temperature signal output. Switched with serial commands.
34	FE	O	Focus error signal output.
35	ABCD	O	Reflection light quantity signal output for the main beam servo detector.
36	BOTM	O	RF/ABCD bottom hold signal output.
37	PEAK	O	Peak hold signal output for the RF/ABCD signals.
38	RF	O	RF equalizer output.
39	RFAGC	-	Connects the RFAGC capacitor.
40	AGCI	I	RFAGC input.
41	COMPO	O	User comparator output.
42	COMPP	I	User comparator non-inverted input.
43	ADDC	I/O	Connects the capacitor for ADIP amplifier feedback circuit.
44	OPO	O	User operational amplifier output.
45	OPN	I	User operational amplifier inverted input.
46	RFO	O	RF amplifier output. Eye pattern checkpoint.
47	MORFI	I	Input of the groove RF signal with AC coupling.
48	MORFO	O	Groove RF signal output.

■ CXD2662R (IC350) : DSP

1.Pin layout



2.Block diagram



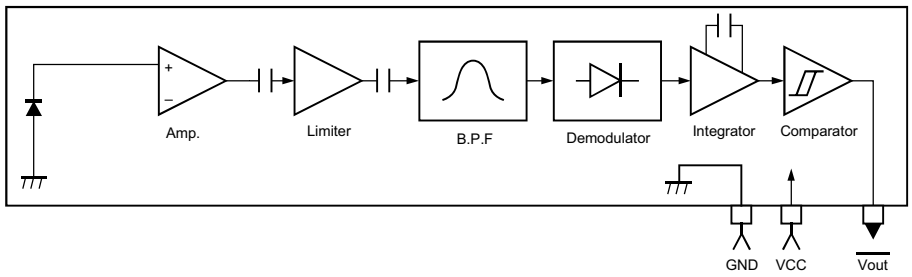
3.Pin function

Pin No.	Symbol	I/O	Function
1	MNT0	I/O	Monitor output.
2	MNT1	O	Monitor output.
3	MNT2	O	Monitor output.
4	MNT3	O	Monitor output.
5	SWDT	I	Data input for microcomputer serial interface.
6	SCLK	I	Shift clook input for microcomputer serial interface.
7	XLAT	I	Latch input for microcomputer serial interface.Latched at the falling edge.
8	SRDT	O	Data output for microcomputer serial interface.
9	SENS	O	Outputs the internal status corresponding to the microcomputer serial interface address.
10	XRST	I	Reset input. Low : reset
11	SQSY	O	Disc subcode Q sync / ADIP sync output.
12	DQSY	O	Subcode Q sync output in U-bit CD or MD format when the Digital In source is CD or MD.
13	RECP	I	Laser power switching input. High : recording power ; low ; playback power
14	XINT	O	Interruption request output. Low when the interruption status occurs.
15	TX	I	Enable signal input for recoding data output. High : enabled
16	OSCI	I	Crystal oscillation circuit input.
17	OSCO	O	Crystal oscillation circuit output. (inverted output ofthe OSCI pin)
18	XTSL	I	OSCI input frequency switching. XTSL1(command) = low and XTSL = high : 512Fs (22.5792MHz) XTSL1(command) = low and XTSL = low : 1024Fs (45.1584MHz) XTSL1(command) = high : 2048Fs (90.3168MHz)
19	DIN0	I	Digital audio interface signal input 1.
20	DIN1	I	Digital audio interface signal input 2.
21	DOUT	O	Digital audio interface signal output.
22	DATAI	I	Test pin. Connect to GND.
23	LRCKI	I	Test pin. Connect to GND.
24	XBCKI	I	Test pin. Connect to GND.
25	ADDT	I	Data input from A / D converter.
26	DADT	O	REC monitor output / decoded audio data output.
27	LRCK	O	LA clock (44.1kHz) output to the external audio block.
28	XBCK	O	Bit clock (2.8224kHz) output to the external audio block.
29	FS256	O	256Fs output.
30	DVDD	-	Digital power supply.
31	A03	O	External DRAM address output.
32	A02	O	External DRAM address output.
33	A01	O	External DRAM address output.
34	A00	O	External DRAM address output.
35	A10	O	External DRAM address output.
36	A04	O	External DRAM address output.
37	A05	O	External DRAM address output.
38	A06	O	External DRAM address output.
39	A07	O	External DRAM address output.
40	A08	O	External DRAM address output.
41	A11	O	External DRAM address output.
42	DVSS	-	Digital ground.
43	XOE	O	External DRAM output enable.

Pin No.	Symbol	I/O	Function
44	XCAS	O	External DRAM CAS output.
45	A09	O	External DRAM address output.
46	XRAS	O	External DRAM RAS output.
47	XWE	O	External DRAM write enable.
48	D1	I/O	External DRAM data bus.
49	D0	I/O	External DRAM data bus.
50	D2	I/O	External DRAM data bus.
51	D3	I/O	External DRAM data bus.
52	MDDTI	I	MD-DATA mode 1 switching input. (Low : normal mode ; high : MD-DATA mode 1)
53	ASYO	O	Playback EFM full-swing input. (Low : vss ; jigh : Vdd)
54	ASYI	I	Playback EFM comparator slice voltage input.
55	AVDD	-	Analog power supply.
56	BIAS	I	Playback EFM comparator bias current input.
57	RFI	I	Playback EFM RE signal input.
58	AVSS	-	Analog ground.
59	PCO	O	Phase comparison output for master PLL of playback digital PLL and recording EFM PLL.
60	FILI	I	Filter input for master PLL of playback digital PLL and recording EFM PLL.
61	FILO	O	Filter output for master PLL of playback digital PLL and recording EFM PLL.
62	CLTV	I	Internal VCO control voltage input for master PLL of playback digital EFM PLL and recording EFM PLL.
63	PEAK	I	Peak hold signal input for quantity of light.
64	BOTM	I	Bottom hold signal input for quantity of light.
65	ABCD	I	Signal input for quantity of light.
66	FE	I	Focus error signal input.
67	AUXI	I	Auxillary input 1.
68	VC	I	Center voltage input.
69	ADIO	I	Monitor output for A / D converter input signal.
70	AVDD	-	Analog power supply.
71	ADRT	I	Voltage input for the upper limit of the A / D converter operating range.
72	ADRB	I	Voltage input for the lower limit of the A / D converter operating range.
73	AVSS	-	Analog ground.
74	SE	I	Sled error signal input.
75	TE	I	Tracking error signal input.
76	DCHG	I	Connect to he low-inpedance power supply.
77	APC	I	Error signal input for laser digital APC.
78	ADFG	I	ADIP binary FM signal (22.05 ± 1kHz) input.
79	F0CNT	O	CXA2523 current source setting output.
80	XLRF	O	CXA2523 control latch output. Latched at the falling edge.
81	CKRF	O	CXA2523 control shift clook output.
82	DTRF	O	CXA2523 control data output.
83	APCREF	O	Referevce PWM output for laser APC.
84	LDDR	O	PWM output for laser digital APC.
85	TRDR	O	Tracking servo drive PWM output. (−)
86	TFDR	O	Tracking servo drive PWM output. (+)
87	DVDD	-	Digital power supply.
88	FFDR	O	Focus servo drive PWM output. (+)
89	FRDR	O	Focus servo drive PWM output. (−)
90	FS4	O	4Fs output. (176.4kHz)

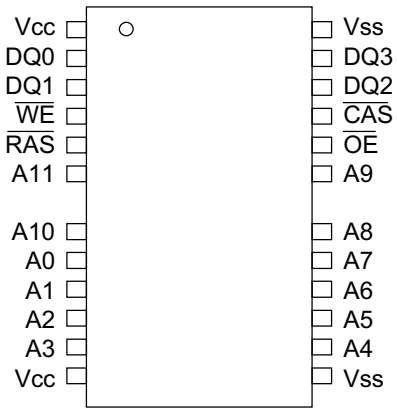
Pin No.	Symbol	I/O	Function
91	SRDR	O	Sled servo drive PWM output. (−)
92	SFDR	O	Sled servo drive PWM output. (+)
93	SPRD	O	Spindle servo drive output. (PWM (−) or polarty)
94	SPFD	O	Spindle servo drive output. (PWM (+) or PWM absolute value)
95	FGIN	I	Spindle CAV servo FG input.
96	TEST1	I	Test pin. Connect to GND.
97	TEST2	I	Test pin. Connect to GND.
98	TEST3	I	Test pin. Connect to GND.
99	DVSS	-	Digital ground.
100	EFMO	O	Low when playback ; EFM (encoded data) output when recording.

■ GP1U271X (IC701) : Receiver for remote



■HY51V17400CT-60 (IC390) : DRAM

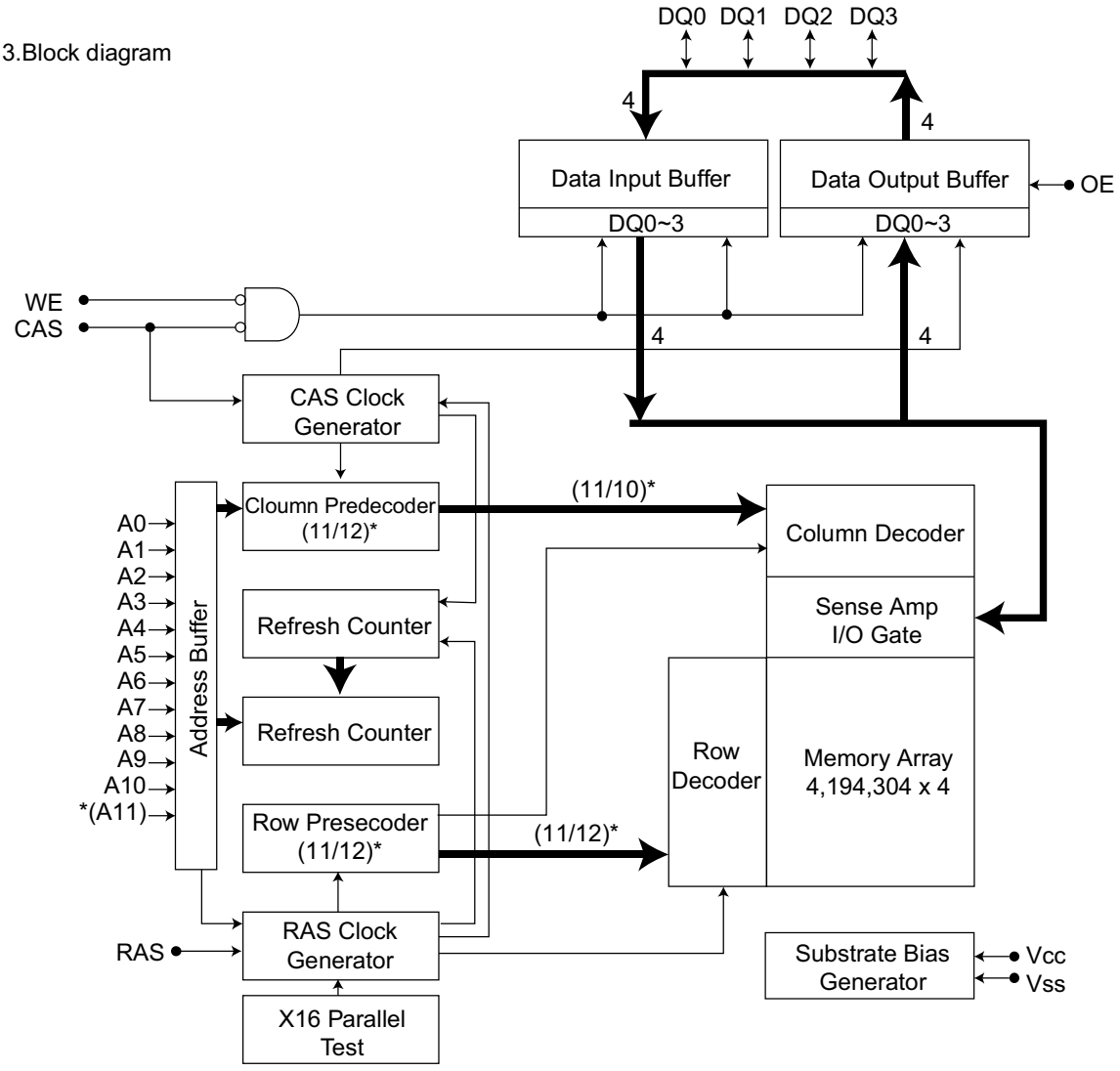
1.Pin layout



2.Pin function

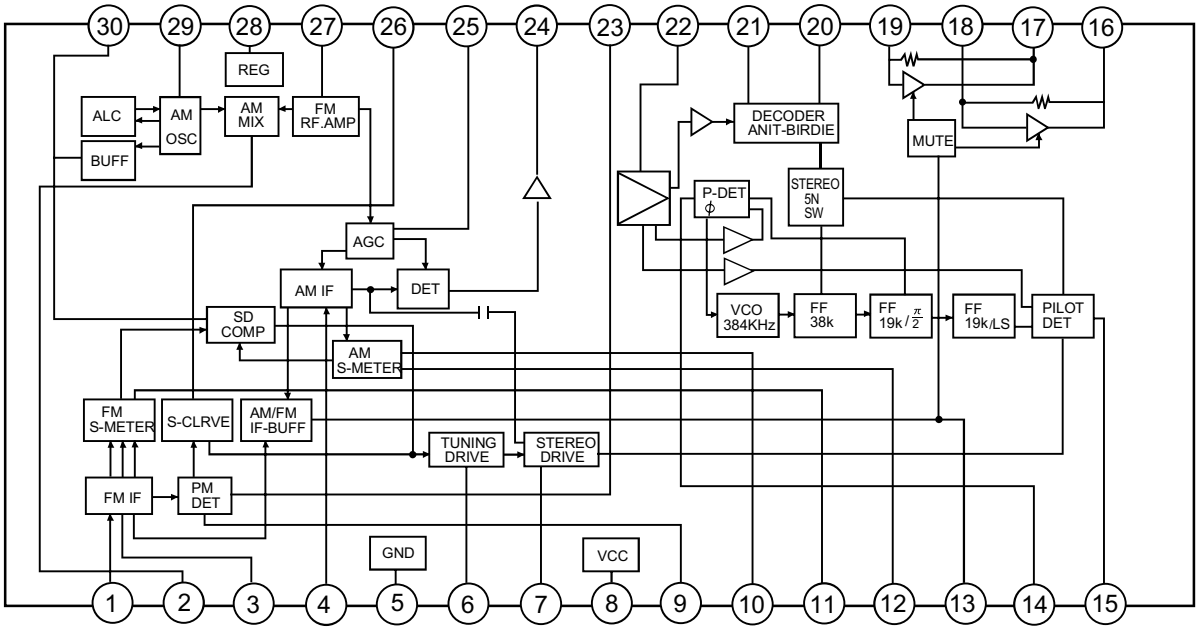
Pin Name	Parameter
/RAS	Row Address Strobe
/CAS	Column Address Strobe
/WE	Write Enable
/OE	Output Enable
A0~A11	Address Input (4K Refresh Product)
A0~A10	Address Input (2K Refresh Product)
DQ0~DQ3	Data In/Out
Vcc	Power (3.3V)
Vss	Ground
NC	No Connection

3.Block diagram



■ LA1838(IC1): FM AM IF AMP&detector, FM MPX decoder

1. Block Diagram

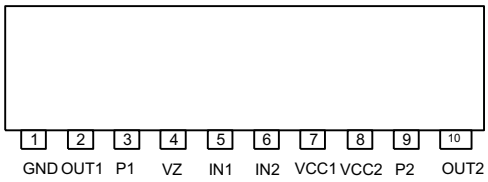


2. Pin Function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	FM IN	I	This is an input terminal of FM IF signal.	16	L OUT	O	Left channel signal output.
2	AM MIX	O	This is an out put terminal for AM mixer.	17	R OUT	O	Right channel signal output.
3	FM IF	I	Bypass of FM IF	18	L IN	I	Input terminal of the left channel post AMP.
4	AM IF	I	Input of AM IF Signal.	19	R IN	I	Input terminal of the right channel post AMP.
5	GND	—	This is the device ground terminal.	20	RO	O	Mpx Right channel signal output.
6	TUNED	O	When the set is tuning, this terminal becomes "L".	21	LO	O	Mpx Left channel signal output.
7	STEREO	O	Stereo indicator output. Stereo "L", Mono: "H"	22	IF IN	I	Mpx input terminal
8	VCC	—	This is the power supply terminal.	23	FM OUT	O	FM detection output.
9	FM DET	—	FM detect transformer.	24	AM DET	O	AM detection output.
10	AM SD	—	This is a terminal of AM ceramic filter.	25	AM AGC	I	This is an AGC voltage input terminal for AM
11	FM VSM	O	Adjust FM SD sensitivity.	26	AFC	—	This is an output terminal of voltage for FM-AFC.
12	AM VSM	O	Adjust AM SD sensitivity.	27	AM RF	I	AM RF signal input.
13	MUTE	I/O	When the signal of IF REQ of IC121(LC72131) appear, the signal of FM/AM IF output. //Muting control input.	28	REG	O	Register value between pin 26 and pin28 desides the frequency width of the input signal.
14	FM/AM	I	Change over the FM/AM input. "H" :FM, "L" : AM	29	AM OSC	—	This is a terminal of AM Local oscillation circuit.
15	MONO/ST	O	Stereo : "H", Mono: "L"	30	OSC BUFFER	O	AM Local oscillation Signal output.

■ LB1641 (IC851,IC852) : DC motor driver

1. Pin layout

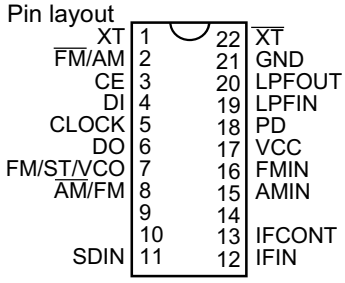


2. Pin function

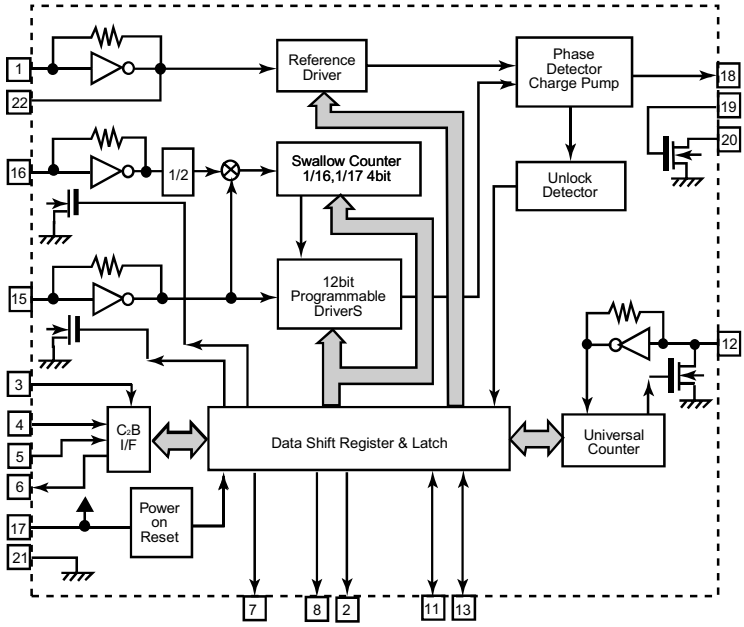
Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake

■ LC72136N (IC2) : PLL frequency synthesizer

1. Pin layout



2. Block diagram

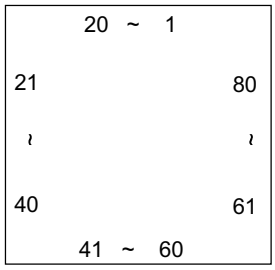


3. Pin function

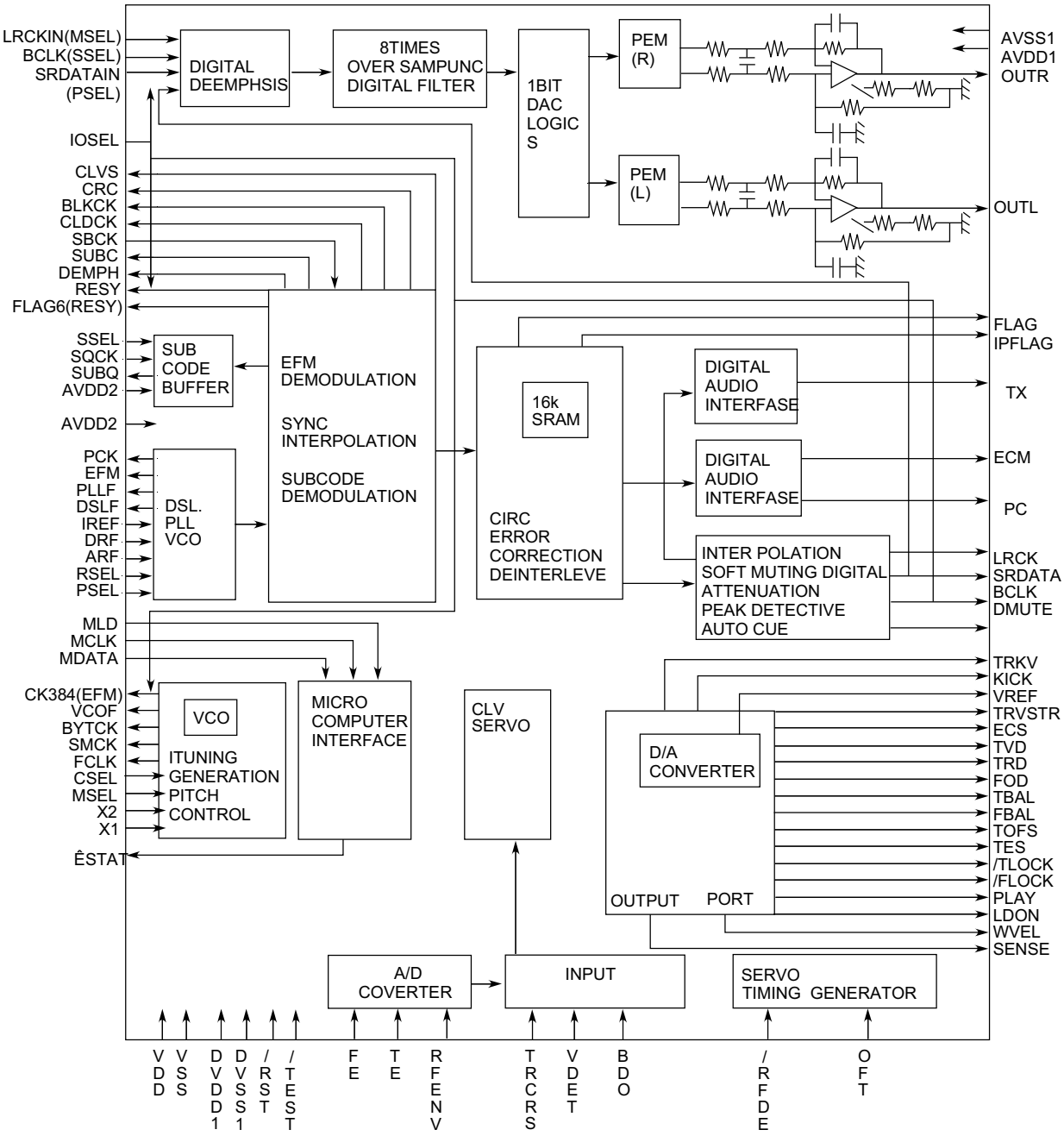
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XT	I	X'tal oscillator connect (75kHz)	12	IFIN	I	IF counter signal input
2	$\overline{FM}$/AM	O	LOW:FM mode	13	IFCONT	O	IF signal output
3	CE	I	When data output/input for 4pin(input) and 6pin(output): H	14		-	Not use
4	DI	I	Input for receive the serial data from controller	15	AMIN	I	AM Local OSC signal output
5	CLOCK	I	Sync signal input use	16	FMIN	I	FM Local OSC signal input
6	DO	O	Data output for Controller Output port	17	VCC	-	Power suplly(VDD=4.5-5.5V) When power ON:Reset circuit move
7	FM/ST/VCO	O	"Low": MW mode	18	PD	O	PLL charge pump output(H: Local OSC frequency Height than Reference frequency. L: Low Agreement: Height impedance)
8	$\overline{AM}$/FM	O	Open state after the power on reset	19	LPFIN	I	Input for active lowpassfilter of PLL
9	LW	I/O	Input/output port	20	LPFOUT	O	Output for active lowpassfilter of PLL
10	MW	I/O	Input/output port	21	GND	-	Connected to GND
11	SDIN	I/O	Data input/output	22	$\overline{XT}$	I	X'tal oscillator(75KHz)

■ MN35510(IC501):Digital servo & Digital signal processer

1. Terminal Layout



2.Block Diagram

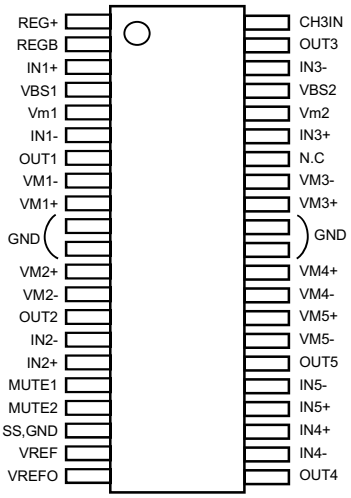


3. Description

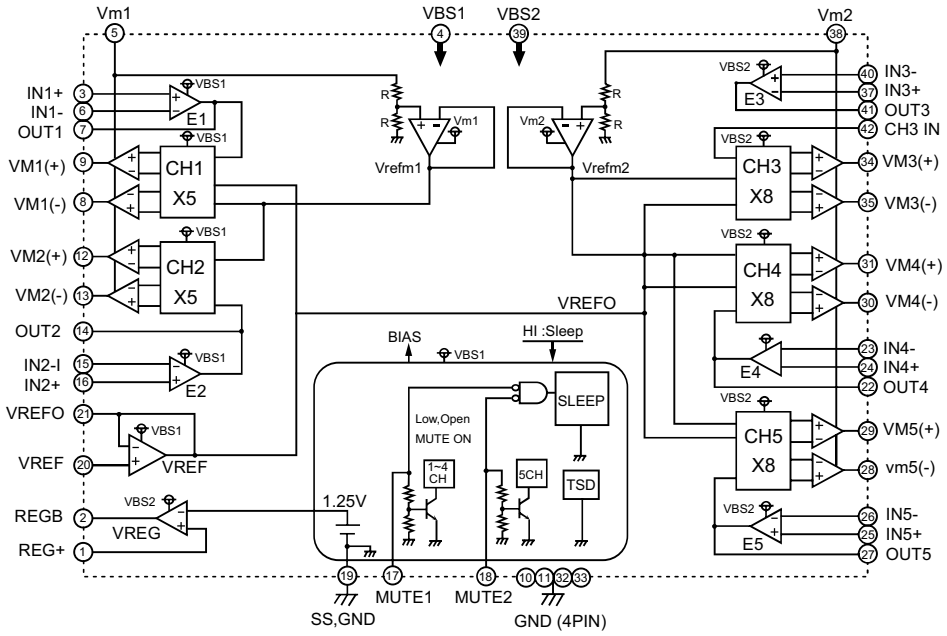
Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Not used	41	TES	O	Tracking error shunt signal output(H:shunt)
2	LRCK	O	Not used	42	PLAY	—	Not used
3	SRDATA	O	Not used	43	WVEL	—	Not used
4	DVDD1	—	Power supply (Digital)	44	ARF	I	RF signal input
5	DVSS1	—	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface output	46	DRF	I	Bias pin for DSL
7	MCLK	I	Micom command clock signal input (Data is latched at signal's rising point)	47	DSLF	I/O	Loop filter pin for DSL
8	MDATA	I	Micom command data input	48	PLLF	I/O	Loop filter pin for PLL
9	MLD	I	Micom command load signal input	49	VCOF	—	Not used
10	SENSE	O	Sence signal output	50	AVDD2	—	Power supply(Analog)
11	FLOCK	O	Focus lock signal output Active :Low	51	AVSS2	—	Connected to GND(Analog)
12	TLOCK	O	Tracking lock signal output Active :Low	52	EFM	—	Not used
13	BLKCK	O	sub-code - block - clock signal output	53	PCK	—	Not used
14	SQCK	I	Outside clock for sub-code Q resister input	54	PDO	—	Not used
15	SUBQ	O	Sub-code Q -code output	55	SUBC	—	Not used
16	DMUTE	—	Connected to GND	56	SBCK	—	Not used
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	—	Connected to GND(for X'tal oscillation circuit)
18	RST	I	Reset signal input (L:Reset)	58	XI	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	—	Not used	59	X2	O	Output of X'tal oscillation circuit
20	PMCK	—	Not used	60	VDD	—	Power supply(for X'tal cscillation circuit)
21	TRV	O	Traverse enforced output	61	BYTCK	—	Not used
22	TVD	O	Traverse drive output	62	CLDCK	—	Not used
23	PC	—	Not used	63	FLAG	—	Not used
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	—	Not used
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	—	Not used
26	KICK	O	Kick pulse output	66	CLVS	—	Not used
27	TRD	O	Tracking drive output	67	CRC	—	Not used
28	FOD	O	Focus drive output	68	DEMPH		Not used
29	VREF	I	Reference voltage input pin for D/A output block (TVD,FOD,FBA,TBAL)	69	RESY	—	Not used
30	FBAL	O	Focus Balance adjust signal output	70	IOSEL	—	pull up
31	TBAL	O	Tracking Balance adjust signal output	71	TEST	—	pull up
32	FE	I	Focus error signal input(Analog input)	72	AVDD1	—	Power supply(Digital)
33	TE	I	Tracking error signal input(Analog input)	73	OUT L	O	Lch audio output
34	RF ENV	I	RF envelope signal input(Analog input)	74	AVSS1	—	Connected to GND
35	VDET	I	Vibration detect signal input(H:detect)	75	OUT R	O	Rch audio output
36	OFT	I	Off track signal input(H:off track)	76	RSEL	—	pull up
37	TRCRS	I	Track cross signal input	77	CSEL	—	Connected to GND
38	RFDET	I	RF detect signal input(L:detect)	78	PSEL	—	Connected to GND
39	BDO	I	BDO input pin(L:detect)	79	MSEL	—	Connected to GND
40	LDON	O	Laser ON signal output(H:on)	80	SSEL	—	Pull up

■ M63008FP-X (IC410) : 5ch Actuator driver

1.Pin layout

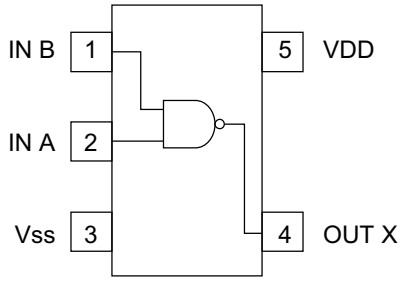


2.Block diagram

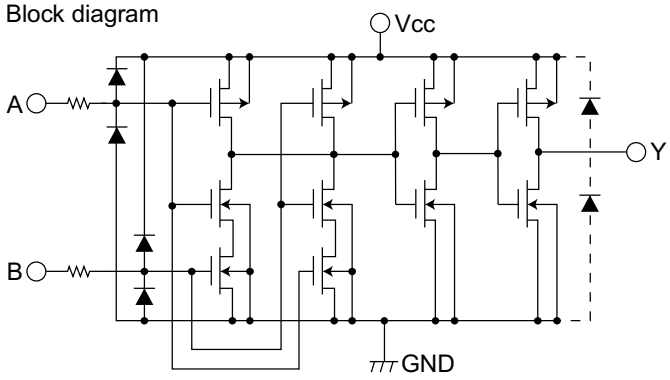


■ TC7S08F-W (IC340) : Buffer

1. Pin layout

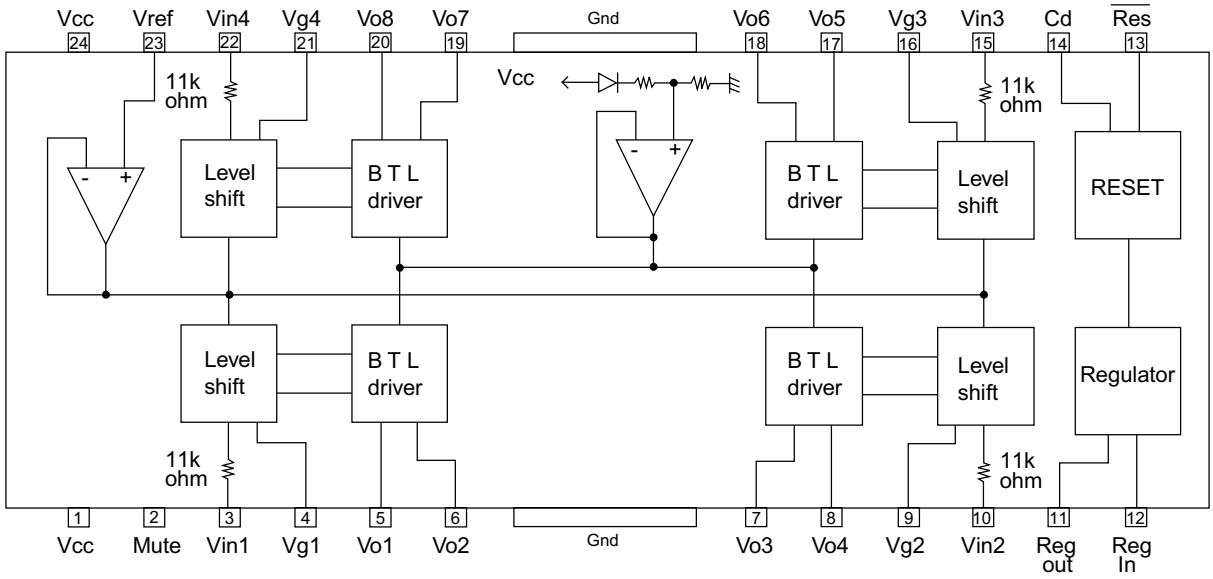


2. Block diagram



■ LA6541-X (IC801) : Servo driver

1. Pin Layout & block diagram



2. Pin function

Pin No.	Symbol	Function
1	Vcc	Power supply (Shorted to pin 24)
2	Mute	All BTL amplifier outputs ON/OFF
3	Vin1	BTL AMP 1 input pin
4	Vg1	BTL AMP 1 input pin (For gain adjustment)
5	Vo1	BTL AMP 1 input pin (Non inverting side)
6	Vo2	BTL AMP 1 input pin (Inverting side)
7	Vo3	BTL AMP 2 input pin (Inverting side)
8	Vo4	BTL AMP 2 input pin (Non inverting side)
9	Vg2	BTL AMP 2 input pin (For gain adjustment)
10	Vin2	BTL AMP 2 input pin
11	Reg Out	External transistor collector (PNP) connection. 5V power supply output
12	Reg In	External transistor (PNP) base connection
13	Res	Reset output
14	Cd	Reset output delay time setting (Capacitor connected externally)
15	Vin3	BTL AMP 3 input pin
16	Vg3	BTL AMP 3 input pin (For gain adjustment)
17	Vo5	BTL AMP 3 output pin (Non inverting side)
18	Vo6	BTL AMP 3 output pin (Inverting side)
19	Vo7	BTL AMP 4 output pin (Inverting side)
20	Vo8	BTL AMP 4 output pin (Non inverting side)
21	Vg4	BTL AMP 4 output pin (For gain adjustment)
22	Vin4	BTL AMP 4 output pin
23	Vref	Level shift circuit's reference voltage application
24	Vcc	Power supply (Shorted to pin 1)

<<MEMO>>

UX-A70MDR

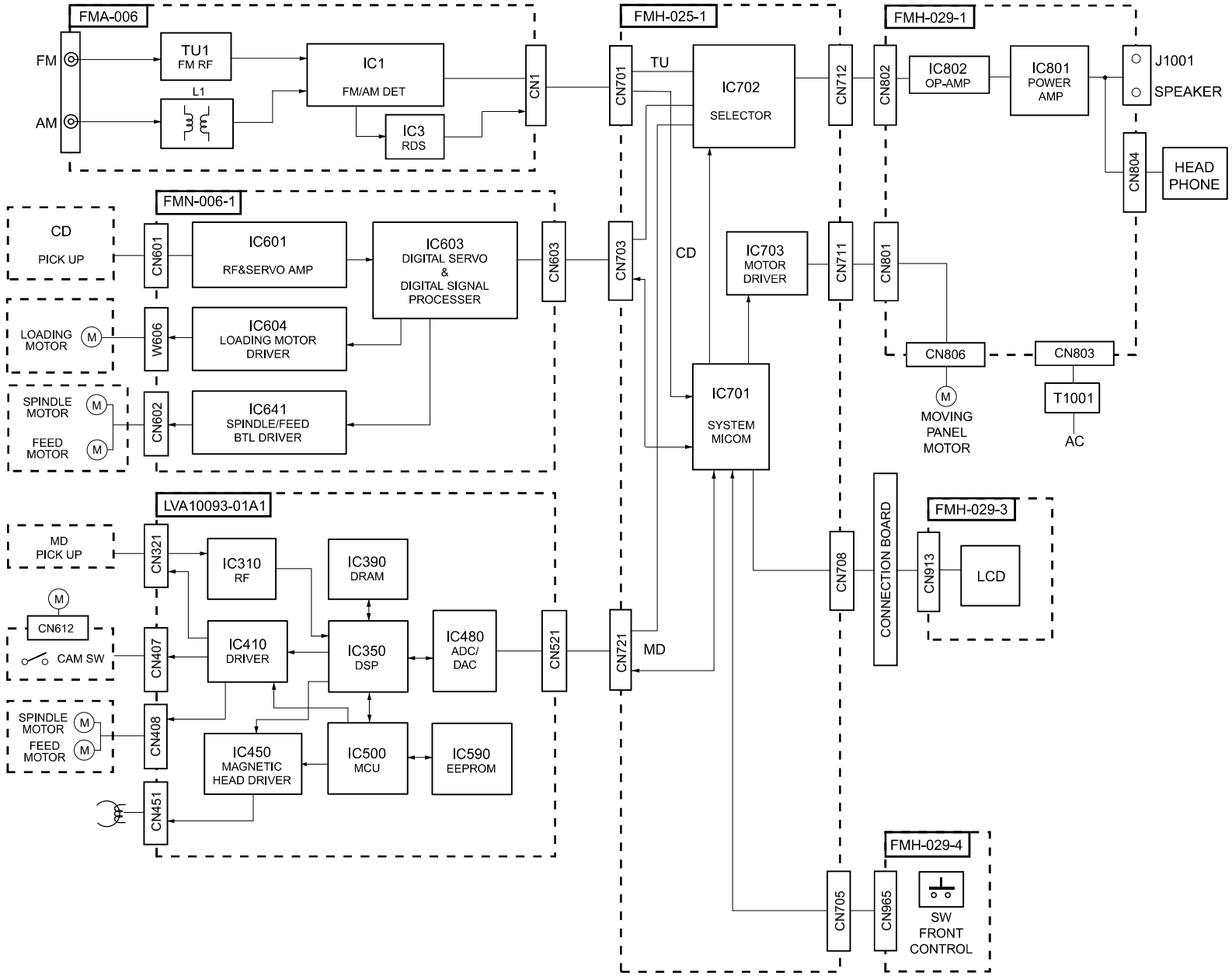
JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO & COMMUNICATION BUSINESS DIVISION
PERSONAL & MOBILE NETWORK BUSINESS UNIT 10-1,1Chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

No.20907

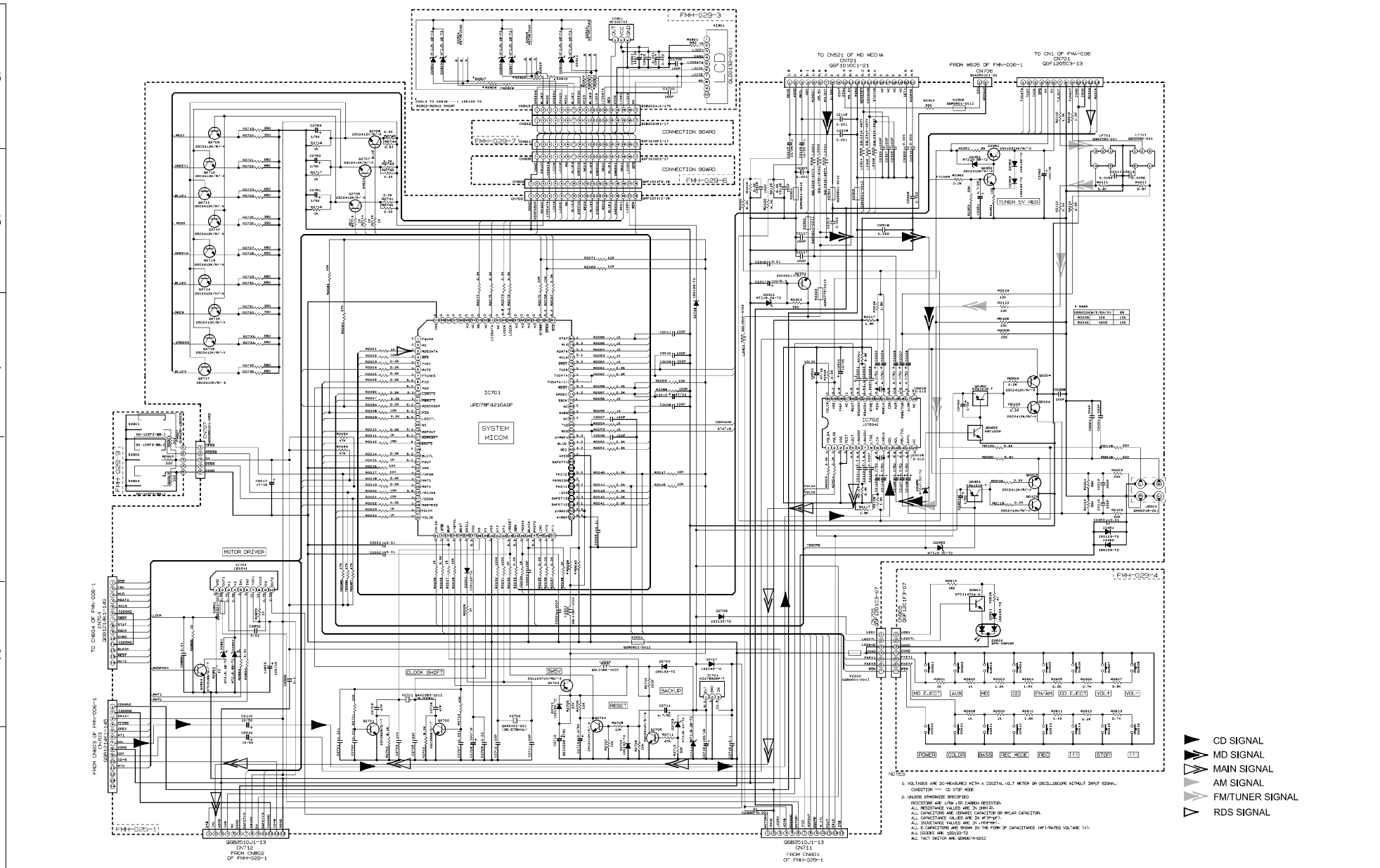
Printed in Japan
200101(O)

Block diagram

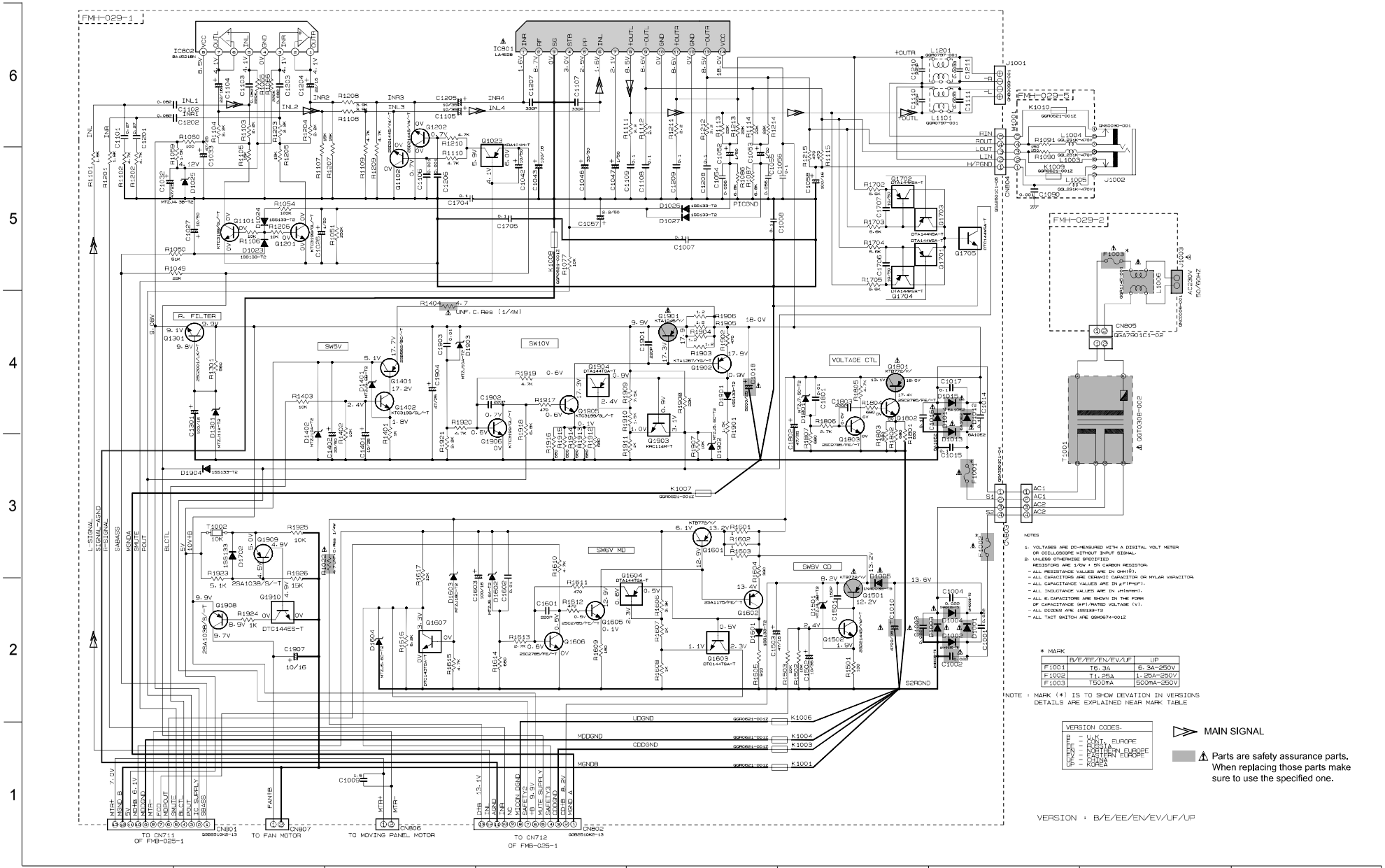


Standard schematic diagrams

■ Main & control circuit



■ Power amplifier & Power supply circuit

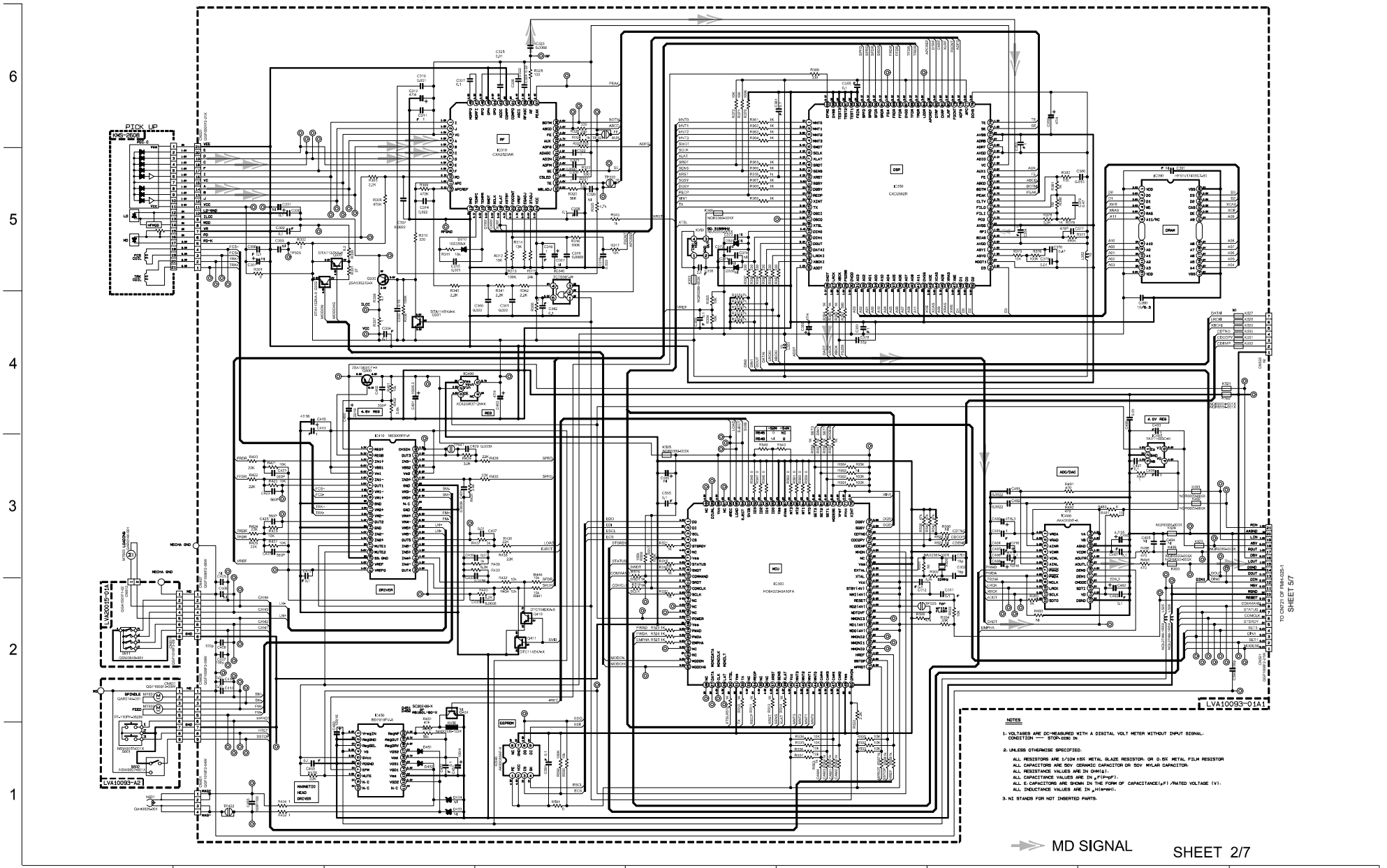


* MARK	B/E/EE/EN/EV/UF	UP
F1001	T6.3A	6.3A-250V
F1002	T1.25A	1.25A-250V
F1003	T500mA	500mA-250V

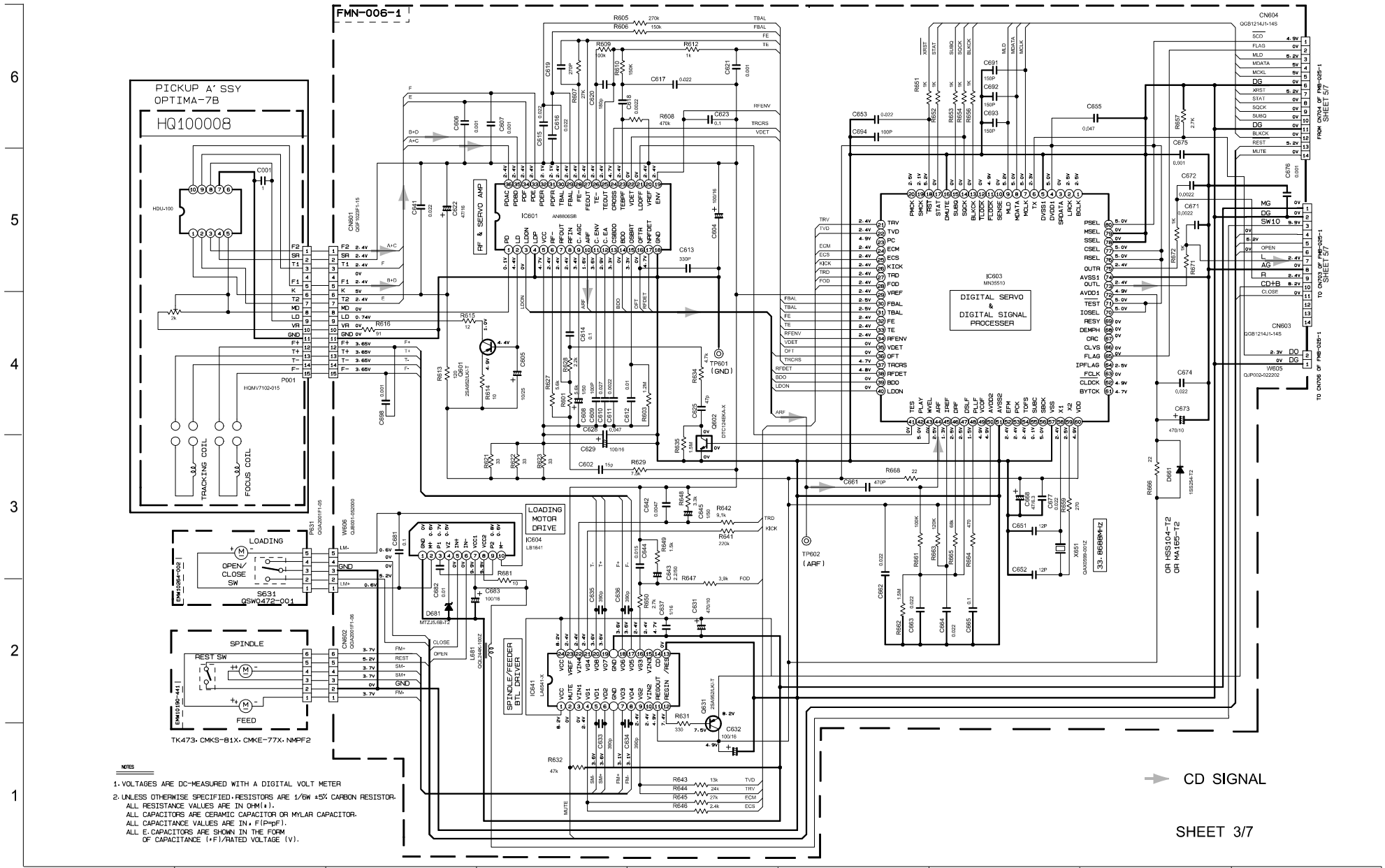
NOTE : MARK (*) IS TO SHOW DEVATION IN VERSIONS DETAILS ARE EXPLAINED NEAR MARK TABLE

VERSION CODES.	
B	U.K.
E	CONT. EUROPE
EE	EASTERN EUROPE
EN	SCANDINAVIA
EV	RUSSIA
UF	AUSTRALIA

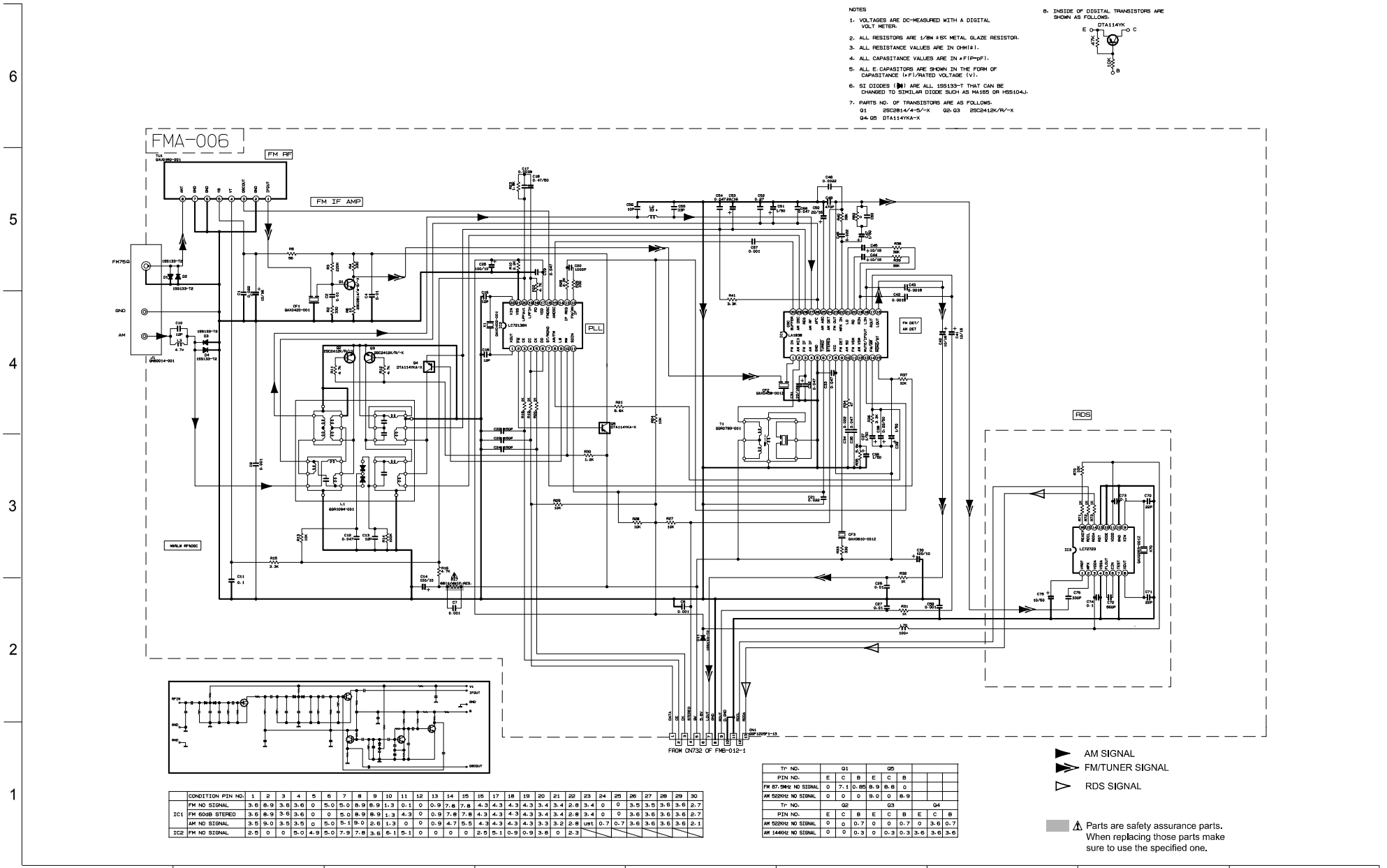
■ MD control circuit



■ CD control circuit



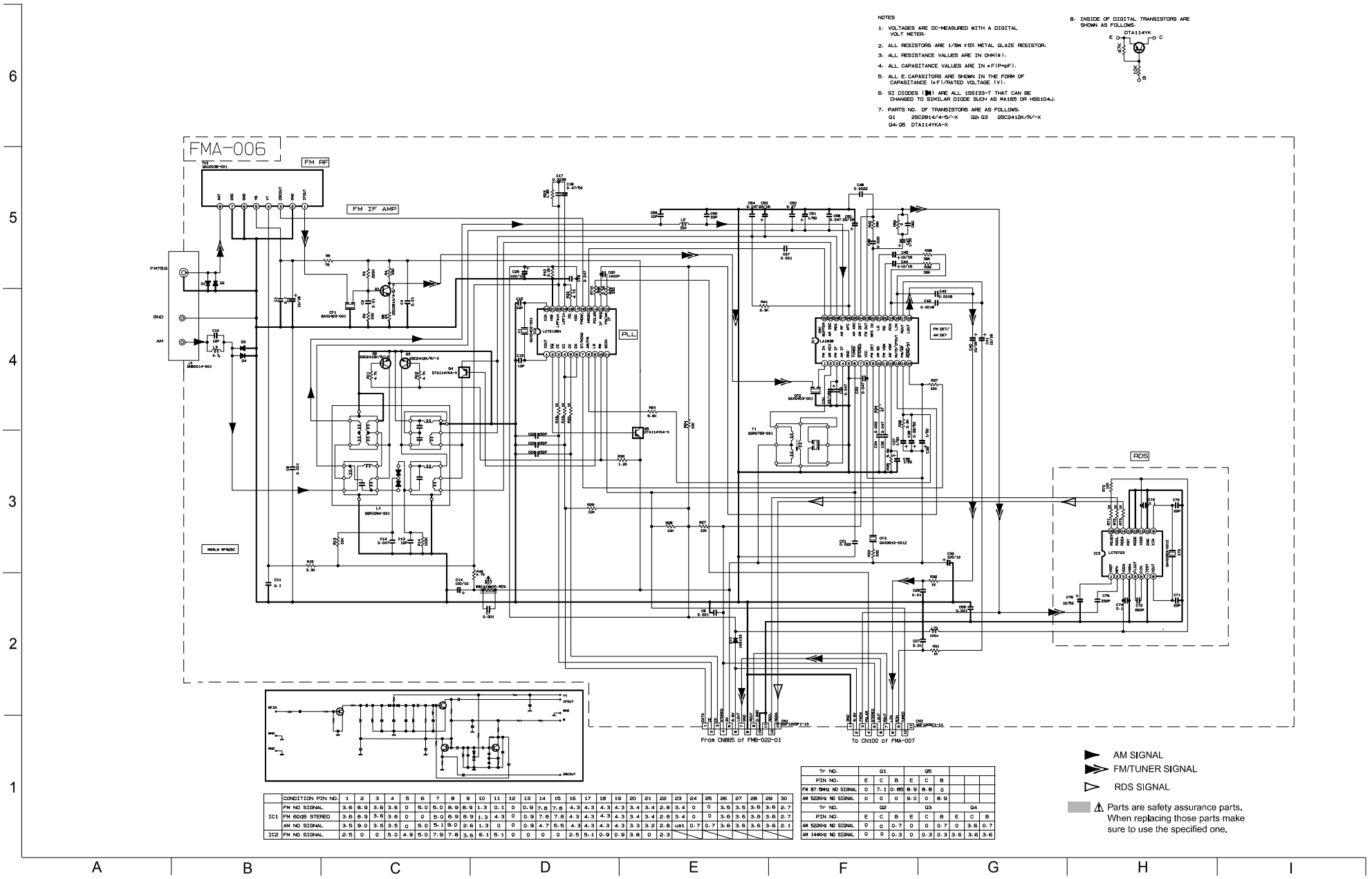
■ Tuner circuit (B/E/EN)


NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER.
2. ALL RESISTORS ARE 1/8W ±5% METAL GLAZE RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM(Ω).
4. ALL CAPASITANCE VALUES ARE IN μF(P=pF).
5. ALL E.CAPASITORS ARE SHOWN IN THE FORM OF CAPASITANCE (μF)/RATED VOLTAGE (V).
6. SI DIODES (▷|) ARE ALL 1SS133-T THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS MA165 OR HSS104J.
7. PARTS NO. OF TRANSISTORS ARE AS FOLLOWS.
Q1 2SC2814/4-5/-X Q2.Q3 2SC2412K/R/-X
Q4.Q5 DTA114YKA-X
8. INSIDE OF DIGITAL TRANSISTORS ARE SHOWN AS FOLLOWS.
DTA114YK
FMA-006
FM RF
FM IF AMP
PLL
RDS
FM DET/ AM DET
FROM CN732 OF FMB-012-1
AM SIGNAL
FM/TUNER SIGNAL
RDS SIGNAL
⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

	CONDITION PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
IC1	FM NO SIGNAL	3.6	8.9	3.6	3.6	0	5.0	5.0	8.9	8.9	1.3	0.1	0	0.9	7.8	7.8	4.3	4.3	4.3	4.3	3.4	3.4	2.8	3.4	0	0	3.5	3.5	3.6	3.6	2.7
	FM 60dB STEREO	3.6	8.9	3.6	3.6	0	0	5.0	8.9	8.9	1.3	4.3	0	0.9	7.8	7.8	4.3	4.3	4.3	4.3	3.4	3.4	2.8	3.4	0	0	3.6	3.6	3.6	3.6	2.7
	AM NO SIGNAL	3.5	9.0	3.5	3.5	0	5.0	5.1	9.0	2.6	1.3	0	0	0.9	4.7	5.5	4.3	4.3	4.3	4.3	3.3	3.2	2.8	ust	0.7	0.7	3.6	3.6	3.6	3.6	2.1
IC2	FM NO SIGNAL	2.5	0	0	5.0	4.9	5.0	7.9	7.8	3.6	5.1	5.1	0	0	0	0	2.5	5.1	0.9	0.9	3.8	0	2.3								

Tr NO.	Q1			Q5					
PIN NO.	E	C	B	E	C	B			
FM 87.5MHz NO SIGNAL	0	7.1	0.85	8.9	8.8	0			
AM 522KHz NO SIGNAL	0	0	0	9.0	0	8.9			
Tr NO.	Q2			Q3			Q4		
PIN NO.	E	C	B	E	C	B	E	C	B
AM 522KHz NO SIGNAL	0	0	0.7	0	0	0.7	0	3.6	0.7
AM 1440KHz NO SIGNAL	0	0	0.3	0	0.3	0.3	3.6	3.6	3.6

■ Tuner circuit (EE)



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER.
2. ALL RESISTORS ARE 1/8W ±5% METAL GLAZE RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM(Ω).
4. ALL CAPASITANCE VALUES ARE IN μF(P=pF).
5. ALL E-CAPASITORS ARE SHOWN IN THE FORM OF CAPASITANCE (μF)/RATED VOLTAGE (V).
6. SI DIODES (▶|) ARE ALL 1SS133-T THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS MA165 OR HSS104J.
7. PARTS NO. OF TRANSISTORS ARE AS FOLLOWS.
   Q1 2SC2814/4-5/-X Q2·Q3 2SC2412K/R/-X
   Q4·Q5 DTA114YKA-X

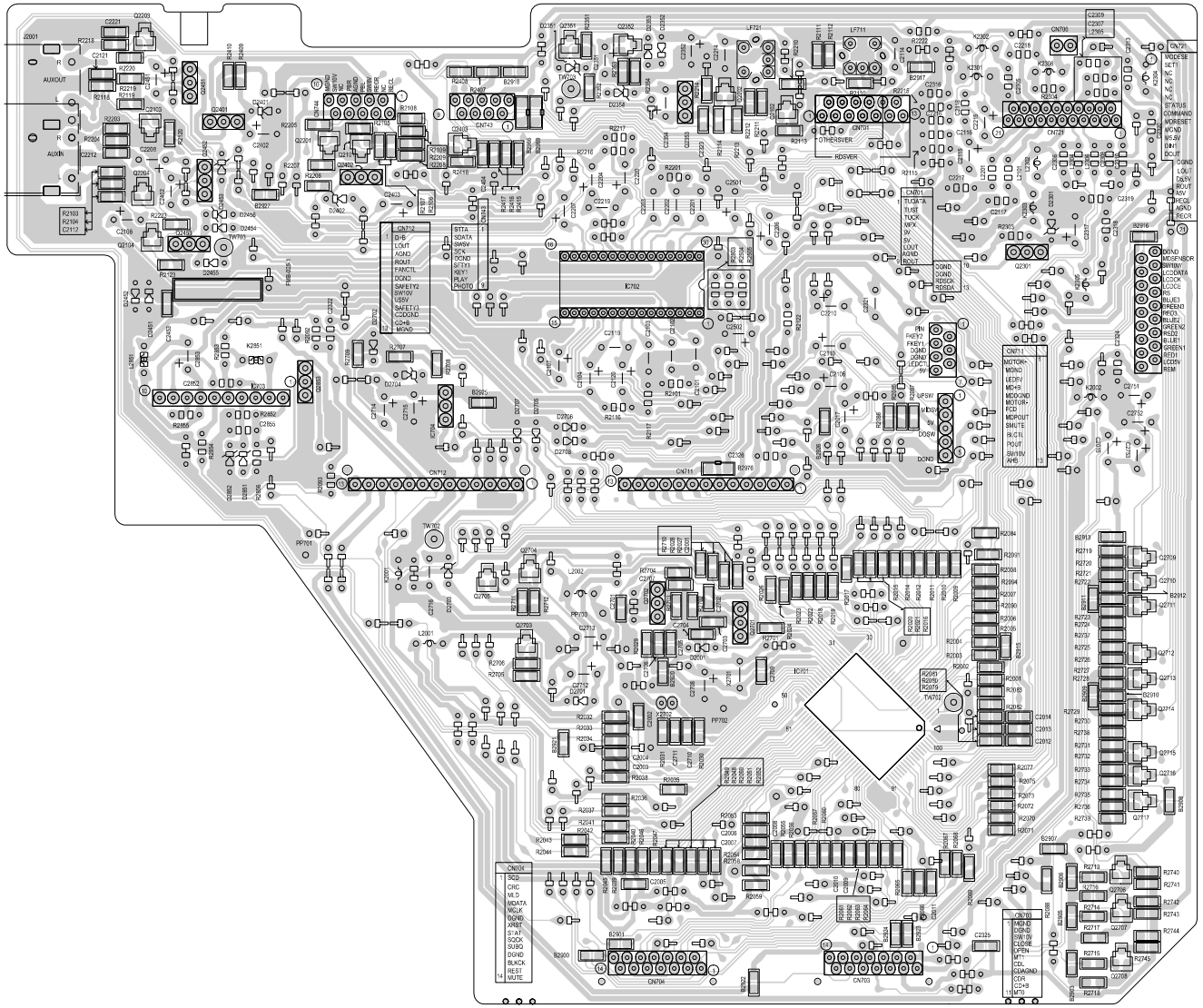
8. INSIDE OF DIGITAL TRANSISTORS ARE SHOWN AS FOLLOWS.

	CONDITION PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
IC1	FM NO SIGNAL	3.6	8.9	3.6	3.6	0	5.0	5.0	8.9	8.9	1.3	0.1	0	0.9	7.8	7.8	4.3	4.3	4.3	4.3	3.4	3.4	2.8	3.4	0	0	3.5	3.5	3.6	3.6	2.7
	FM 60dB STEREO	3.6	8.9	3.6	3.6	0	0	5.0	8.9	8.9	1.3	4.3	0	0.9	7.8	7.8	4.3	4.3	4.3	4.3	3.4	3.4	2.8	3.4	0	0	3.6	3.6	3.6	3.6	2.7
	AM NO SIGNAL	3.5	9.0	3.5	3.5	0	5.0	5.1	9.0	2.6	1.3	0	0	0.9	4.7	5.5	4.3	4.3	4.3	4.3	3.3	3.2	2.8	ust	0.7	0.7	3.6	3.6	3.6	3.6	2.1
IC2	FM NO SIGNAL	2.5	0	0	5.0	4.9	5.0	7.9	7.8	3.6	6.1	5.1	0	0	0	0	2.5	5.1	0.9	0.9	3.8	0	2.3								

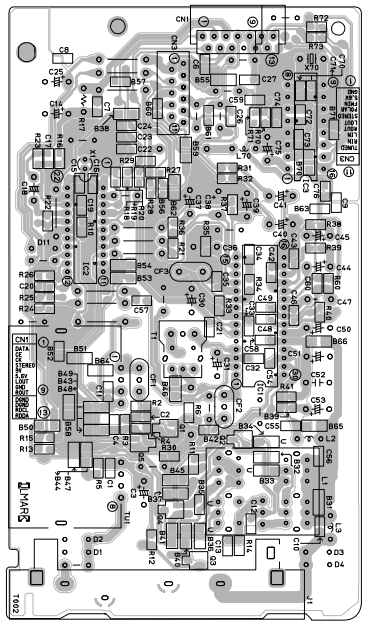
Tr NO.	Q1			Q5				
PIN NO.	E	C	B	E	C	B		
FM 87.6MHz NO SIGNAL	0	7.1	0.65	8.9	8.8	0		
AM 522KHz NO SIGNAL	0	0	0	9.0	0	8.9		
Tr NO.	Q2			Q3			Q4	
PIN NO.	E	C	B	E	C	B	E	C	B
AM 522KHz NO SIGNAL	0	0	0.7	0	0	0.7	0	3.6	0.7
AM 1440Hz NO SIGNAL	0	0	0.3	0	0.3	0.3	3.6	3.6	3.6

Printed circuit boards

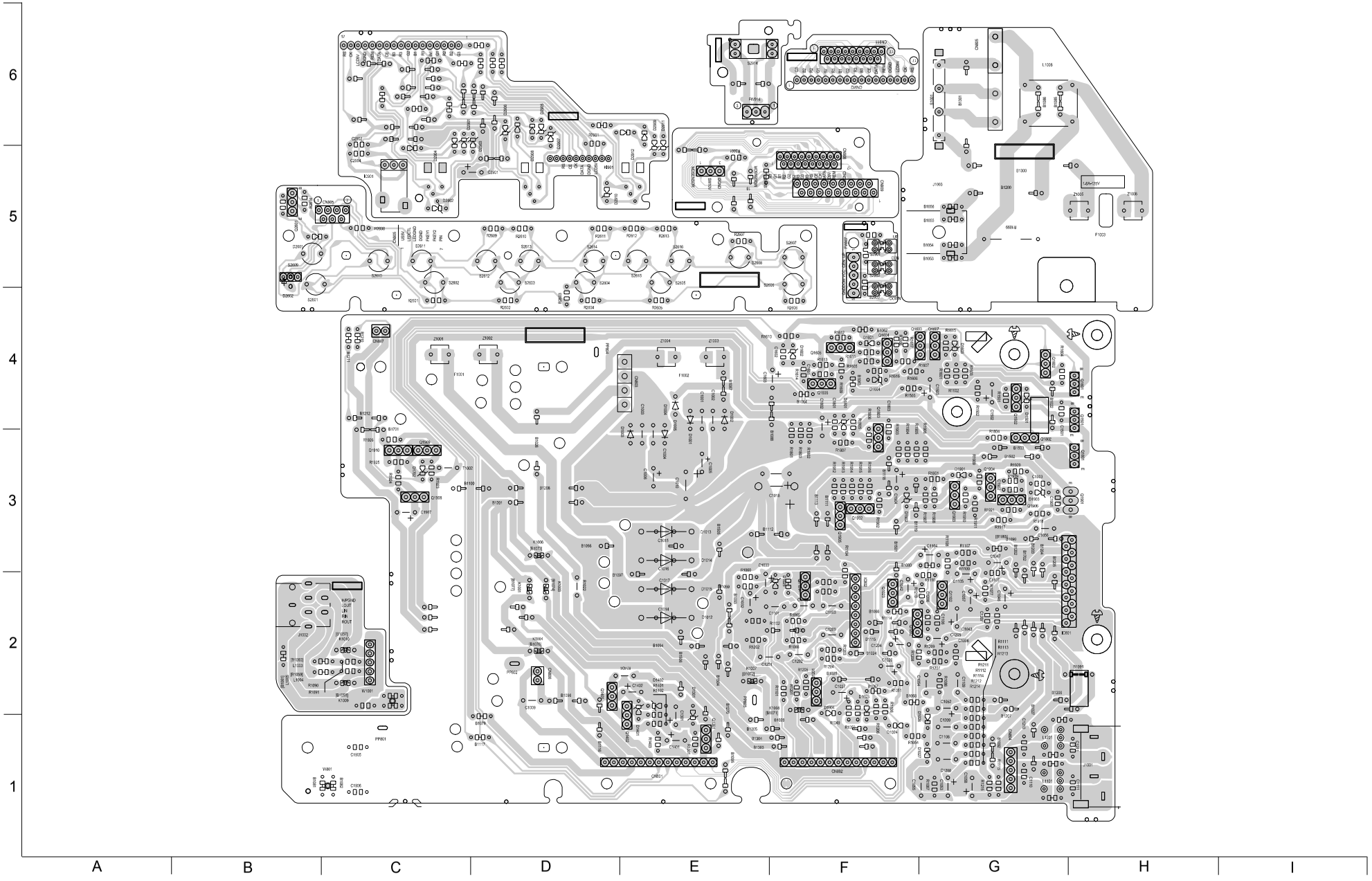
■ Main board



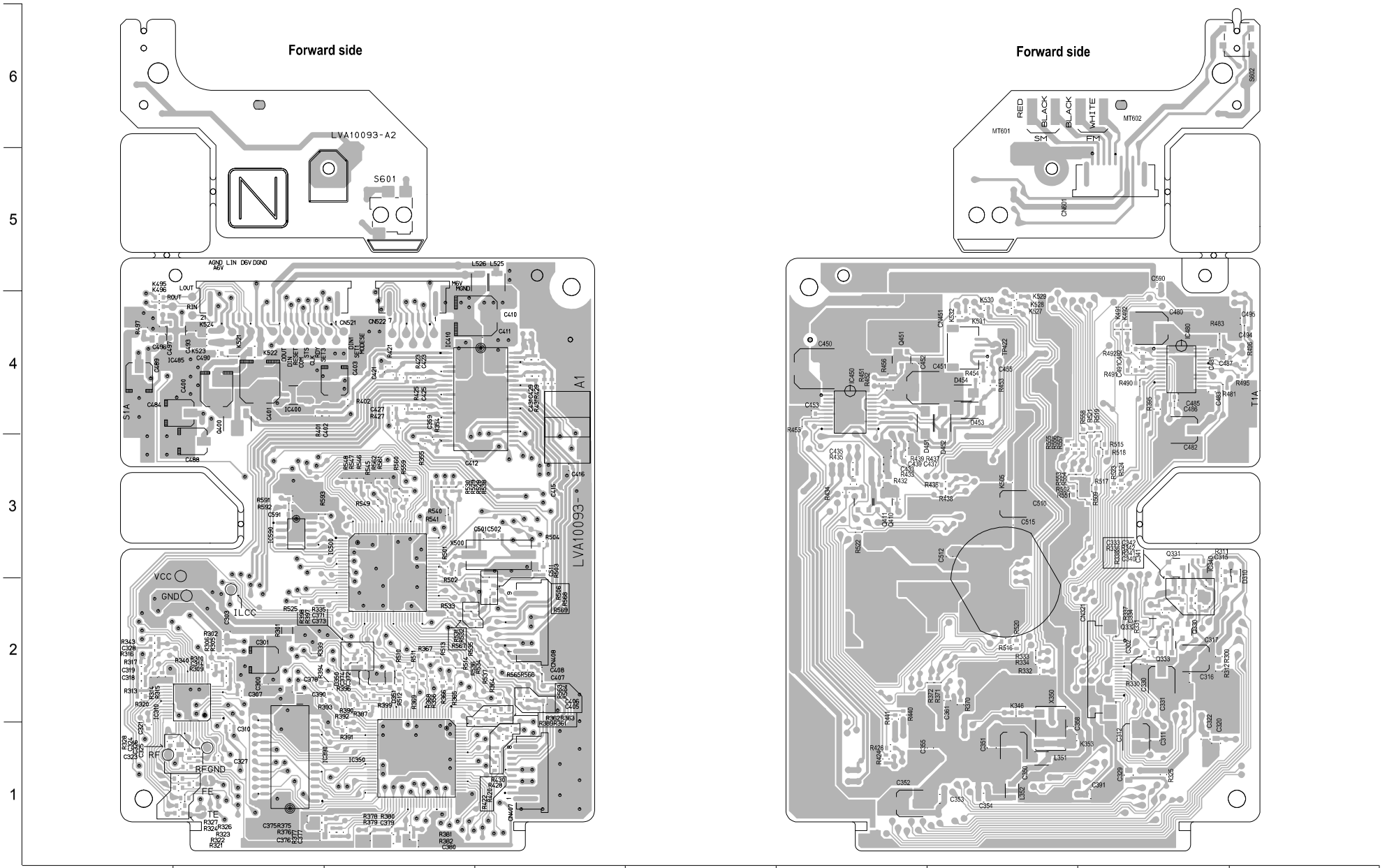
■ Tuner board



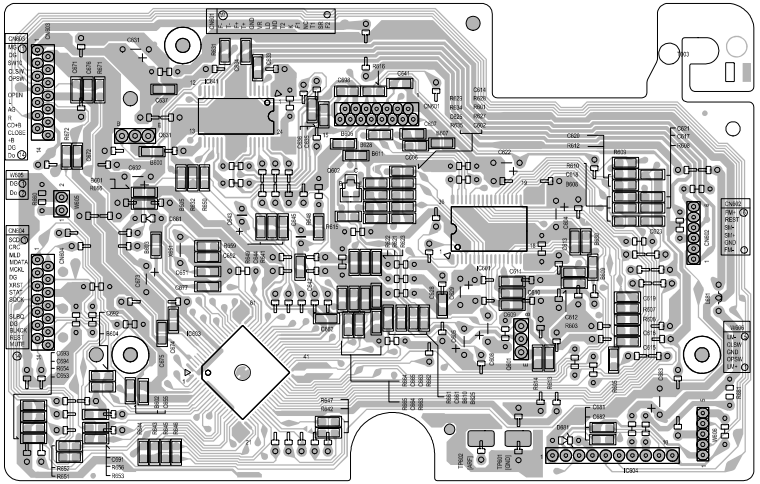
■ **Power amplifier & control & AC jack board**



■MD servo control board



■CD servo control board



<<MEMO>>

PARTS LIST

[UX-A70MDR]

* All printed circuit boards and its assemblies are not available as service parts.

Area suffix

B ---------- U.K.
E ---------- Continental Europe
EN ---------- Northern Europe

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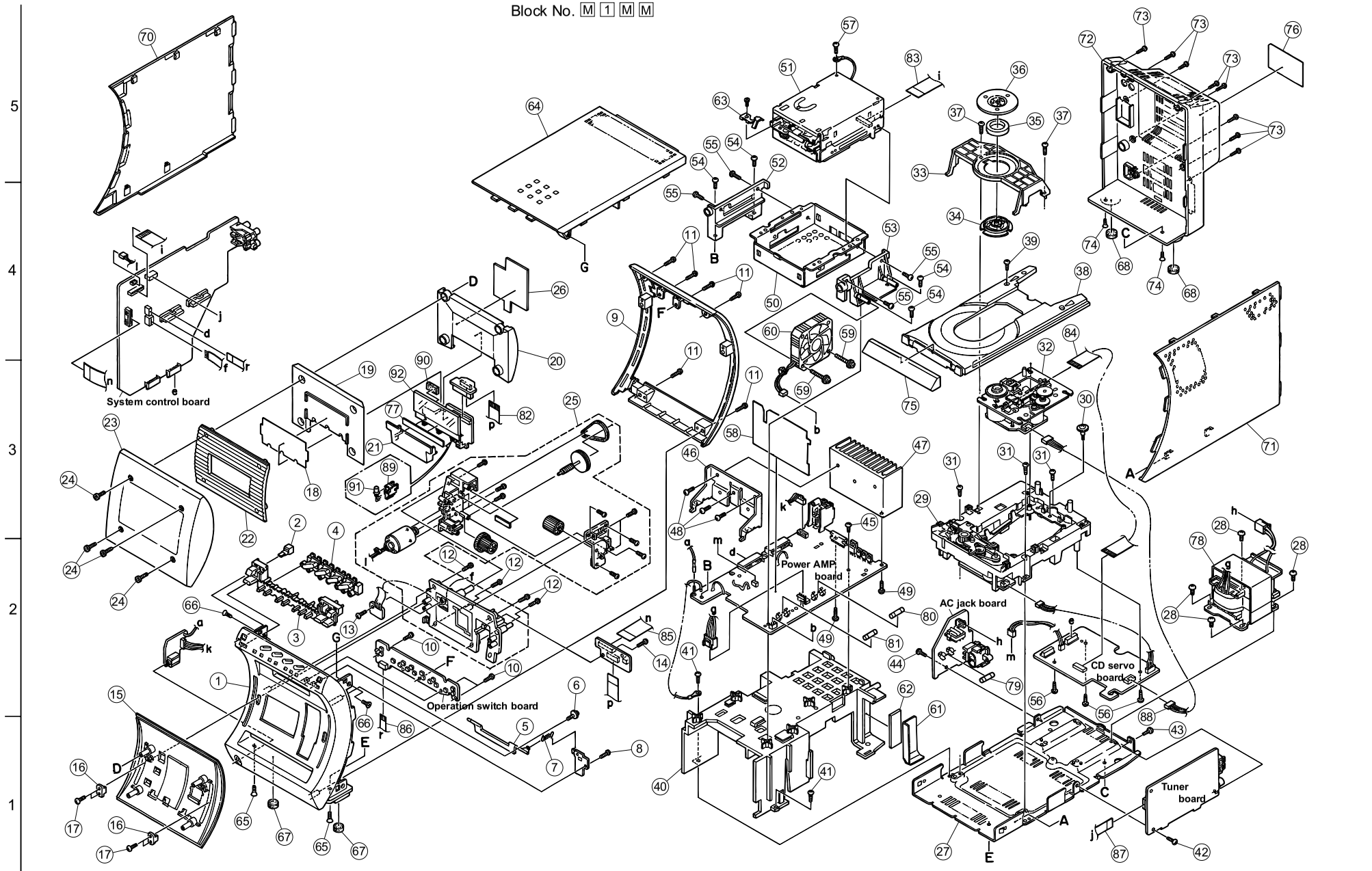
Exploded view of general assembly and parts list ---------- 3- 3
CD loading base assembly and parts list ---------- 3- 5
CD mechanism assembly and parts list ---------- 3- 7
MD mechanism assembly and parts list ---------- 3- 8
Electrical parts list ---------- 3-11
Packing materials and accessories parts list ---------- 3-22

< MEMO >

Exploded view of general assembly and parts list

Block No. M 1 M M



■ Parts list (General assembly)

Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	GV10043-009A	FRONT PANEL	1		
	2	GV40101-001A	STANDBY LENS	1		
	3	GV30106-003A	FRONT BUTTON	1		
	4	GV30107-003A	BUTTON ASSY	1		
	5	GV30109-002A	MD LID	1		
	6	GV40035-001A	SPECIAL SCREW	1		
	7	GV40108-003A	LID SPRING	1		
	8	QYSBSF2608Z	T.SCREW	1	FRONT PANEL	
	9	GV10048-002A	FRONT GROOVE	1		
	10	QYSBSF2608Z	T.SCREW	3	FOR FRONT BTN	
	11	QYSBSF2608Z	T.SCREW	6	FOR FRONT GROOV	
	12	QYSBSF2608Z	T.SCREW	4	RAIL BASE+F.PNL	
	13	QYSBSF2608Z	T.SCREW	1	FOR DETEC SW.PWB	
	14	QYSBSF2608Z	T.SCREW	1	FOR CONNEC.PWB	
	15	GV20073-001A	FRONT CASE	1		
	16	GV40103-002A	RAIL	2		
	17	QYSBSF2610Z	T.SCREW	4	RAIL +RAIL BASE	
	18	GV40104-001A	LCD SHEET	1		
	19	GV20074-001A	LCD LENS	1		
	20	GV20075-002A	LCD HOLDER	1		
	21	GV30112-001A	LED COVER	1		
	22	GV20076-001A	LCD COVER A	1		
	23	GV20078-002A	FRONT LENS	1		
	24	LV40744-001A	SOCKET BOLT	4		
	25	GV20087-002A	RAIL BASE ASSY	1		
	26	GV40145-001A	SPACER	1	LCD LENS	
	27	GV10044-001A	BOTTOM CHASSIS	1		
	28	QYSBST4006Z	T.SCREW	4	TRANS +BTM.CHASSIS	
	29	----------	CD LOADING BASE ASSY	1		
	30	E406293-001	SPECIAL SCREW	1	FOR CD MECHA	
	31	QYSBST3006Z	T.SCREW	3	BOTTOM	
	32	----------	CD MECHA	1		
	33	E26756-222SS	CD CLAMPER BASE	1		
	34	E306835-221SS	CD CLAMPER	1		
	35	VYH7313-003	MAGNET	1		
	36	E306836-223SS	CD YOKE	1		
	37	QYSBSF3008Z	SCREW	2	LOADING ASSY	
	38	E102358-333	CD TRAY	1		
	39	QYSBSF3008Z	SCREW	1	FOR CD TRAY	
	40	GV10047-002A	INNER CHASSIS	1		
	41	QYSBST3006Z	T.SCREW	2	+ BOTTOM CHASSI	
	42	QYSDST3006Z	SCREW	1	TUNER PWB+ BTTM	
	43	QYSBSF3010N	TAP SCREW	1	TUNER (REAR SID	
	44	QYSBST3006Z	T.SCREW	1	AC PWB+ BTTM.CH	
	45	QYSBSF3008Z	SCREW	1	CHASSIS	
	46	GV30105-002A	BRACKET	1		
	47	GV30113-001A	HEAT SINK	1		
	48	QYSBSF3008Z	SCREW	3	BRACKET +H.SINK	

■ Parts list (General assembly)

Block No. M1MM

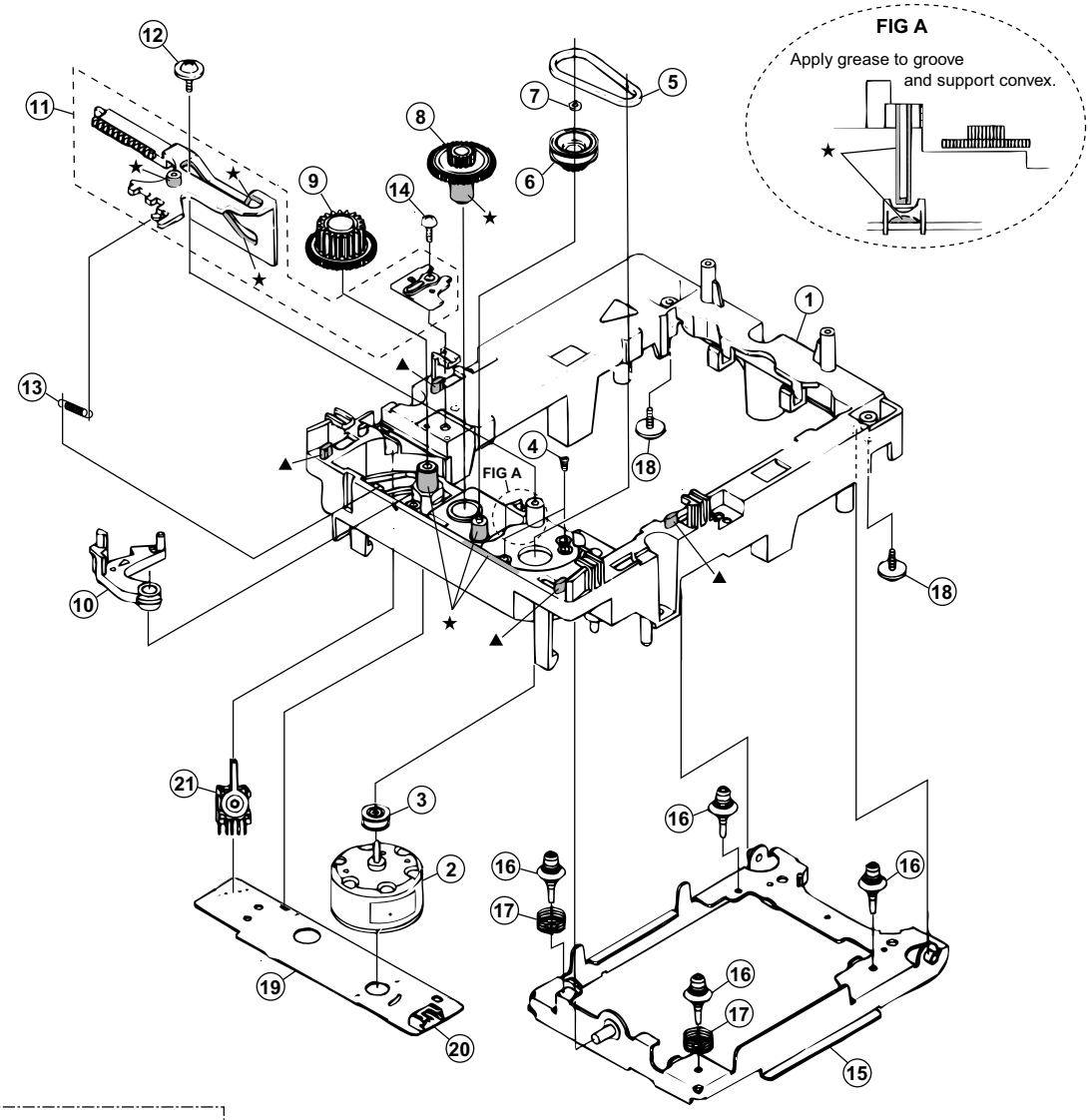
⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	49	QYSBSF3008Z	SCREW	2	H.SINK + PWB BR	
	50	GV20079-001A	MD MECHA BASE	1		
	51	----------	MD MECHA	1		
	52	GV30114-001A	MD M HOLDER(L)	1		
	53	GV30115-001A	MD M HOLDER(R)	1		
	54	QYSBSF3012Z	SCREW	4	MD M.HLD+IN.CHA	
	55	QYSBST3008Z	T.SCREW	4	MD M.BASE+MD HL	
	56	QYSBSF2608Z	T.SCREW	3	CD BRD.+L.BASE	
	57	QYSBST3006Z	T.SCREW	1	FOR MD MECHA	
	58	GV30125-001A	PROTECT SHEET	1		
	59	GV40133-001A	SPECIAL SCREW	2	MD HOLDER R/FAN	
	60	QAR0124-002	FAN	1		
	61	GV40146-002A	SHIELD	1		
	62	GV40123-005A	SPACER	1	FOR SHIELD	
	63	LV42063-001A	SUPPORT BRACKET	1		
	64	GV10056-001A	TOP COVER	1		
	65	QYSSST3006Z	SCREW	2	F.PANEL/BTTM CH	
	66	QYSSSF3008Z	SCREW	2	F.PANEL/T.COVER	
	67	GV40091-002A	FOOT	2	FRONT PANEL	
	68	GV40091-002A	FOOT	2	REAR COVER	
	70	GV10049-005A	SIDE PANEL(L)	1		
	71	GV10049-006A	SIDE PANEL(R)	1		
	72	GV10046-011A	REAR COVER	1		
	73	QYSBSF3010N	TAP SCREW	8	FOR REAR COVER	
	74	QYSSST3006Z	SCREW	2	+ REAR COVER	
	75	GV30117-002A	CD FITTING	1		
	76	GV30127-002A	NAME PLATE	1		
	77	GV40123-004A	SPACER	1	FOR LCD COVER	
⚠	78	QQT0308-002	POWER TRANSF.	1		
⚠	79	QMF51E2-R50-J1	FUSE	1	F1003	
⚠	80	QMF51E2-1R25-J1	FUSE	1	F1002	
⚠	81	QMF51E2-6R3-J1	FUSE	1	F1001	
	82	QUQ610-1709AJ	CARD WIRE	1	CONN-CONN	
	83	QUQ110-2120BJ	CARD WIRE	1	MD-FMB	
	84	QUQ110-1509AJ	FFC WIRE	1	CD-PICKUP	
	85	QUQ412-1821CJ	CARD WIRE	1	CONN-FMB	
	86	QUQ412-0716DJ	FCC WIRE	1	FUNCT-FMB	
	87	QUQ412-1333CJ	FFC WIRE	1	TUNER-FMB	
	88	EWS176-008	FLAT WIRE	1	PICKUP-CD	
	89	GV40120-001A	LED HOLDER	3	FOR LED LAMP	
	90	GV40123-001A	SPACER	1	FOR LCD LENS BR	
	91	NSTM515AS	LED	3	D2904 2908 2912	
	92	QLD0132-001	LCD MODULE	1	KI901	

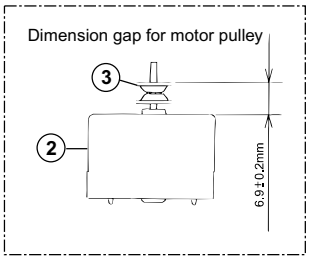
CD loading base assembly and parts list

Block No. M 2 M M

FLM-120-1M

Grease
★ = G-474C
▲ = EBS0006-009B





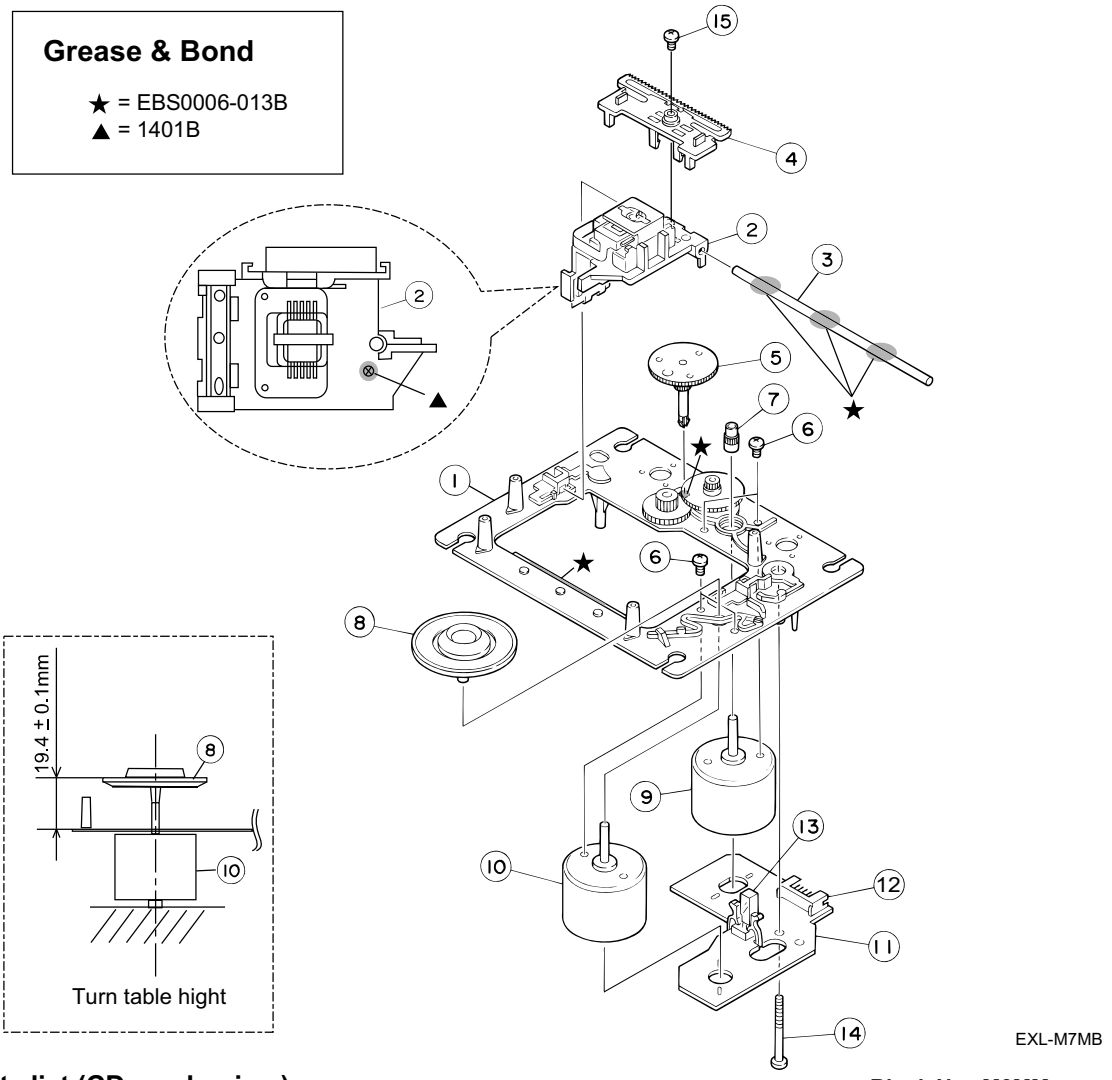
■ Parts list (CD loading base)

Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	E102357-331SM	CD LOADING BASE	1		
	2	MMN-6F1LB8K	MOTOR	1		
	3	E75984-222SS	MOTOR PULLEY	1		
	4	QYSPSPT2640Z	MINI SCREW	2		
	5	E75950-002	BELT	1		
	6	E75985-222SS	GEAR(1)	1		
	7	E60912-005SS	SPEED NUT	1		
	8	E75986-221SS	C.D GEAR (2)	1		
	9	E75987-221SS	C.D GEAR (3)	1		
	10	E307162-331SS	LEVER	1		
	11	E307252-331SS	CAM PLATE	1		
	12	E65923-003	TAPPING SCREW	1		
	13	E75989-001	SPRING	1		
	14	QYSBSF3008Z	SCREW	1		
	15	E307179-222SM	E.BASE ASS'Y	1		
	16	E406294-002	INSULATOR	4		
	17	E406871-001	SPRING	2		
	18	E65923-003	TAPPING SCREW	2		
	19	EMW10264-002	C.D CIR.BOARD	1		
	20	QGA2001F1-05	5P PLUG ASSY	1		
	21	QSW0472-001	SWITCH	1		

CD mechanism assembly and parts list

Block No. M 3 M M



■ Parts list (CD mechanism)

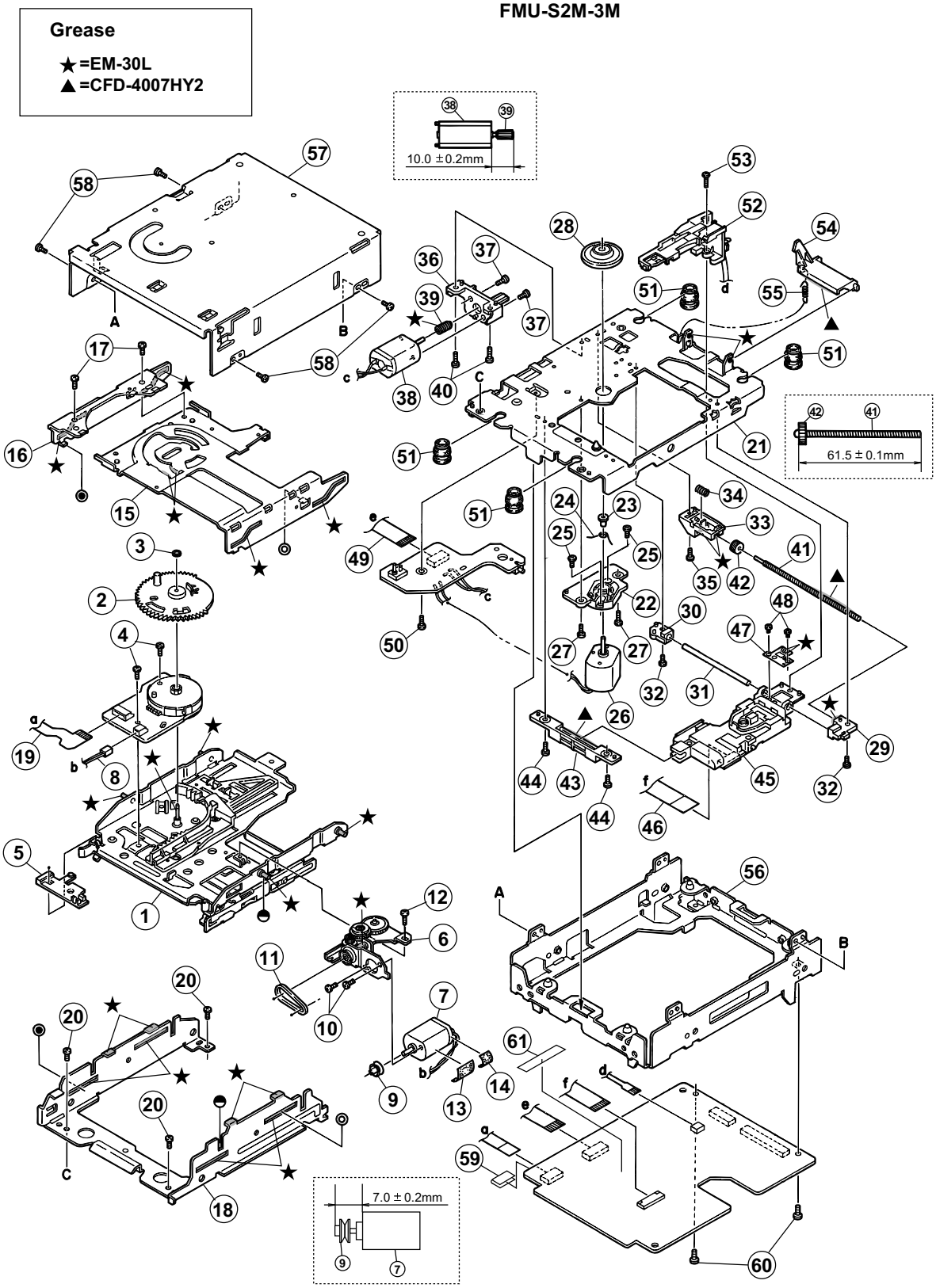
Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	E102731-221SM	CD MECHA BASE A	1		
	2	OPTIMA-7B	CD PICK	1		
	3	E406777-002SM	CD SHAFT	1		
	4	LV31002-001A	CD RACK	1		
	5	E307745-441SM	CD GEAR 3	1		
	6	QYSDSP2003N	SCREW	4		
	7	E406750-442SM	PINION	1		
	8	EPB-001PK	T.TABLE ASSY	1		
	9	E406784-001	FEED MOTOR	1		
	10	QAR0130-001	SP MOTOR	1		
	11	EMW10190-441	CIR BOARD	1		
	12	QGA2001F1-06	6P PLUG ASSY	1	FOR P011	
	13	QSW0506-001	LEAF SW	1	FOR S001	
	14	E75832-221SS	SPECIAL SCREW	1	FOR M.CB	
	15	QYSDSF2606Z	SCREW	1		

MD mechanism assembly and parts list

Block No. M 4 M M

FMU-S2M-3M



■ Parts list (MD mechanism)

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV20548-007A	LOADING ASSY	1		
	2	LV31472-002A	CAM GEAR	1		
	3	QYWDL1230252	SLIT WASHER	1		
	4	LV41477-001A	MINI TAP SCREW	2	CAM SW PWB	
	5	LV32168-001A	WIRE HOLDER	1		
	6	LV31710-002A	L.MOTOR ASSY	1		
	7	QAR0144-001	MOTOR	1		
	8	WJM0117-003A	E-SI C WIRE C-F	1		
	9	LV41341-001A	MOTOR PULLEY	1		
	10	QYSPSPT2020M	MINI SCREW	2	LOAD.MOTOR	
	11	LV41342-001A	BELT	1		
	12	LV41477-001A	MINI TAP SCREW	1	L.MOTOR BKT.	
	13	LV30225-068A	SPACER	1		
	14	LV30225-085A	SPACER	1		
	15	LV20543-002A	SLIDE BASE R	1		
	16	LV31483-001A	SLIDE BASE L	1		
	17	LV41477-001A	MINI TAP SCREW	2	SLIDE BASE	
	18	LV10286-002A	LOAD.MECHA BASE	1		
	19	LVB40003-001A	FPC CABLE	1		
	20	LV41477-001A	MINI TAP SCREW	3	L.MECHA BASE	
	21	LV31709-003A	TM.CHASSIS ASSY	1		
	22	LV20545-001A	SP.MOTOR BASE	1		
	23	LE40515-001A	COLLAR	1		
	24	LE40516-001A	SPRING	1		
	25	QYSPSPU1720N	SCREW	2	SP.MOTOR	
	26	FF-110PH-08280	SP.MOTOR	1		
	27	LV41477-001A	MINI TAP SCREW	2	SP.MOTOR BASE	
	28	LE30470-202A	T.TABLE ASSY	1		
	29	LV41343-001A	SHAFT HOLDER R	1		
	30	LV41344-002A	SHAFT HOLDER F	1		
	31	VKH5803-001	GUIDE SHAFT	1		
	32	LV41477-001A	MINI TAP SCREW	2	SHAFT HOLDER	
	33	LV31484-001A	T.SPRING HOLDER	1		
	34	LV41350-001A	COM.SPRING	1		
	35	LV41477-001A	MINI TAP SCREW	1	T.SP.HOLDER	
	36	LV31485-001A	FEED MOTOR BKT.	1		
	37	QYSPSPT2025N	MINI SCREW	2	FEED MOTOR	
	38	QAR0144-001	MOTOR	1	(FEED MOTOR)	
	39	LV41345-001A	FEED WORM	1		
	40	LV41477-001A	MINI TAP SCREW	2	FEED MOTOR BKT.	
	41	LV41346-001A	SCREW SHAFT	1		
	42	LV41347-001A	S.SHAFT GEAR	1		
	43	LV31486-001A	PICK UP GUIDE	1		
	44	LV41477-001A	MINI TAP SCREW	2	P-UP GUIDE	
	45	KMS-260B1	MD PICK UNIT	1		
	46	LVB30007-001A	FPC CABLE	1		
	47	LV41348-001A	RACK SPRING	1		
	48	QYSPSPT1414M	MINI SCREW	2	RACK SPRING	

■ Parts list (MD mechanism)

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	49	WJT0042-001A	E-CARD WIRE	1		
	50	LV41477-001A	MINI TAP SCREW	1	T.MECHA PWB	
	51	LV40761-003A	INSULATOR	4		
	52	QAH0039-002	MD HEAD	1		
	53	QYSPSPT1740N	MINI SCREW	1	MD HEAD	
	54	LV31487-002A	HEAD LIFTER	1		
	55	LV41349-001A	H.LIFTER SPRING	1		
	56	LV10284-002A	SINGLE FRAME	1		
	57	LV10285-003A	MECHA COVER	1		
	58	LV41477-001A	MINI TAP SCREW	4	MECHA COVER	
	59	LV30225-068A	SPACER	1		
	60	VKZ4539-024	MINI SCREW	2	SERVO PWB	
	61	LV30225-096A	SPACER	1		

■ **Electrical parts list (CD servo board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 602	NCS21HJ-150X	C CAPACITOR		
	C 604	QEKC1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 605	QEKC1EM-106Z	E CAPACITOR	10MF 20% 25V	
	C 606	NCB21HK-102X	C CAPACITOR		
	C 607	NCB21HK-102X	C CAPACITOR		
	C 608	QEKC1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 609	NCS21HJ-101X	C CAPACITOR		
	C 610	NCB21HK-273X	C CAPACITOR		
	C 611	NCB21HK-222X	C CAPACITOR		
	C 612	NCB21HK-103X	C CAPACITOR		
	C 613	NCS21HJ-331X	C CAPACITOR		
	C 614	NCB21EK-104X	C CAPACITOR		
	C 615	NCB21HK-223X	C CAPACITOR		
	C 616	NCB21HK-223X	C CAPACITOR		
	C 617	NCB21HK-223X	C CAPACITOR		
	C 618	NCB21HK-222X	C CAPACITOR		
	C 619	NCS21HJ-271X	C CAPACITOR		
	C 620	NCS21HJ-181X	C CAPACITOR		
	C 621	NCS21HJ-102X	C CAPACITOR		
	C 622	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 623	NCB21EK-104X	C CAPACITOR		
	C 625	NCS21HJ-470X	C CAPACITOR		
	C 628	NCB21EK-473X	C CAPACITOR		
	C 629	QEKC1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 631	EETC1AM-477ZJC	E CAPACITOR		
	C 632	QETC1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C 633	NCS21HJ-391X	C CAPACITOR		
	C 634	NCS21HJ-391X	C CAPACITOR		
	C 635	NCS21HJ-391X	C CAPACITOR		
	C 636	NCS21HJ-391X	C CAPACITOR		
	C 637	NCF21CZ-105X	C CAPACITOR		
	C 641	NCB21HK-223X	C CAPACITOR		
	C 642	NCB21HK-472X	C CAPACITOR		
	C 643	QEQF1EM-475Z	NP E CAPACITOR	4.7MF 20% 25V	
	C 644	NCB21HK-273X	C CAPACITOR		
	C 645	QEQF1HM-105Z	NP E CAPACITOR	1.0MF 20% 50V	
	C 651	NDC21HJ-120X	C CAPACITOR		
	C 652	NDC21HJ-120X	C CAPACITOR		
	C 653	NCB21HK-223X	C CAPACITOR		
	C 655	NCB21EK-473X	C CAPACITOR		
	C 661	NCS21HJ-471X	C CAPACITOR		
	C 662	NCB21HK-223X	C CAPACITOR		
	C 663	NCB21HK-223X	C CAPACITOR		
	C 664	NCB21HK-223X	C CAPACITOR		
	C 665	NCB21CK-104X	C CAPACITOR		
	C 668	QEKC0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 669	NCB21HK-222X	C CAPACITOR		
	C 671	NCB21HK-222X	C CAPACITOR		
	C 672	NCB21HK-222X	C CAPACITOR		
	C 673	QETC1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C 674	NCB21HK-223X	C CAPACITOR		
	C 675	NCB21HK-102X	C CAPACITOR		
	C 676	NCB21HK-102X	C CAPACITOR		
	C 677	NCB21HK-223X	C CAPACITOR		
	C 681	NCB21CK-104X	C CAPACITOR		
	C 682	NCB21HK-103X	C CAPACITOR		
	C 683	QEKC1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 691	NCS21HJ-151X	C CAPACITOR		
	C 692	NCS21HJ-151X	C CAPACITOR		
	C 693	NCS21HJ-151X	C CAPACITOR		
	C 694	NCS21HJ-101X	C CAPACITOR		
	C 698	NCS21HJ-102X	C CAPACITOR		
	CN601	QGF1023F1-15	15PIN CONNECTOR		
	CN602	QGA2001F1-06	6P PLUG ASSY		
	CN603	QGB1214J1-14S	CONNECTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	CN604	QGB1214J1-14S	CONNECTOR		
	D 661	1SS254-T2	SI DIODE		
	D 681	MTZJ5.6B-T2	ZENER DIODE		
	IC601	AN8806SB-W	IC		
	IC603	MN35510	IC		
	IC604	LB1641	IC		
	IC641	LA6541-X	IC		
	L 681	QQL244K-100Z	INDUCTOR		
	Q 601	2SA952/LK/-T	TRANSISTOR		
	Q 602	DTC124EKA-X	TRANSISTOR		
	Q 631	2SA952/LK/-T	TRANSISTOR		
	R 601	NRSA02J-562X	MG RESISTOR		
	R 603	NRSA02J-155X	MG RESISTOR		
	R 605	NRSA02J-274X	MG RESISTOR		
	R 606	NRSA02J-154X	MG RESISTOR		
	R 607	NRSA02J-273X	MG RESISTOR		
	R 608	NRSA02J-474X	MG RESISTOR		
	R 609	NRSA02J-104X	MG RESISTOR		
	R 610	NRSA02J-154X	MG RESISTOR		
	R 612	NRSA02J-102X	MG RESISTOR		
	R 613	NRSA02J-121X	MG RESISTOR		
	R 614	NRSA02J-100X	MG RESISTOR		
	R 615	NRSA02J-120X	MG RESISTOR		
	R 616	NRSA02J-910X	MG RESISTOR		
	R 621	NRSA02J-330X	MG RESISTOR		
	R 622	NRSA02J-330X	MG RESISTOR		
	R 623	NRSA02J-330X	MG RESISTOR		
	R 627	NRSA02J-562X	MG RESISTOR		
	R 628	NRSA02J-222X	MG RESISTOR		
	R 629	NRSA02J-752X	MG RESISTOR		
	R 632	NRSA02J-473X	MG RESISTOR		
	R 634	NRSA02J-472X	MG RESISTOR		
	R 635	NRSA02J-155X	MG RESISTOR		
	R 641	NRSA02J-224X	MG RESISTOR		
	R 642	NRSA02J-912X	MG RESISTOR		
	R 643	NRSA02J-133X	MG RESISTOR		
	R 644	NRSA02J-243X	MG RESISTOR		
	R 645	NRSA02J-273X	MG RESISTOR		
	R 646	NRSA02J-242X	MG RESISTOR		
	R 647	NRSA02J-182X	MG RESISTOR		
	R 648	NRSA02J-332X	MG RESISTOR		
	R 649	NRSA02J-821X	MG RESISTOR		
	R 650	NRSA02J-122X	MG RESISTOR		
	R 651	NRSA02J-102X	MG RESISTOR		
	R 652	NRSA02J-102X	MG RESISTOR		
	R 653	NRSA02J-102X	MG RESISTOR		
	R 654	NRSA02J-102X	MG RESISTOR		
	R 656	NRSA02J-102X	MG RESISTOR		
	R 659	NRSA02J-271X	MG RESISTOR		
	R 660	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R 661	NRSA02J-104X	MG RESISTOR		
	R 662	NRSA02J-155X	MG RESISTOR		
	R 663	NRSA02J-124X	MG RESISTOR		
	R 664	NRSA02J-471X	MG RESISTOR		
	R 665	NRSA02J-683X	MG RESISTOR		
	R 666	NRSA02J-220X	MG RESISTOR		
	R 668	NRSA02J-220X	MG RESISTOR		
	R 671	NRSA02J-102X	MG RESISTOR		
	R 672	NRSA02J-102X	MG RESISTOR		
	R 682	NRSA02J-220X	MG RESISTOR		
	R 683	NRSA02J-220X	MG RESISTOR		
	W 605	QJP002-022200	WIRE		
	W 606	QJB001-051800	WIRE		
	X 651	QAX0599-001Z	CRYSTAL		

■ **Electrical parts list (System control board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	CN701	QGF1205C1-13	CONNECTOR	TO TUNER	
	CN703	QGB1214K1-14S	CONNECTOR	TO CD MECHA	
	CN704	QGB1214K1-14S	CONNECTOR	TO CD MECHA	
	CN705	QGF1201C3-07	CONNECTOR	TO FUNCTION KEY	
	CN706	QGA2501C1-02	2P CONNECTOR	DIGITAL IN	
	CN707	QGD2504C1-05Z	CONNER	FR PANEL SENSOR	
	CN708	QGF1201C3-18	FFC/FPC CONNE	TO LCD	
	CN711	QGB2510J1-13	CONNECTOR	TO FMH	
	CN712	QGB2510J1-13	CONNECTOR	TO FMH	
	CN721	QGF1016C1-21	CONNECTOR	TO MD MECHA	
	C2001	NCB21HK-103X	C CAPACITOR		
	C2002	NCB21HK-103X	C CAPACITOR		
	C2003	NCS21HJ-101X	C CAPACITOR		
	C2004	NCS21HJ-101X	C CAPACITOR		
	C2005	NCB21HK-103X	C CAPACITOR		
	C2006	NCS21HJ-101X	C CAPACITOR		
	C2007	NCS21HJ-101X	C CAPACITOR		
	C2008	NCS21HJ-470X	C CAPACITOR		
	C2009	NCS21HJ-101X	C CAPACITOR		
	C2010	NCS21HJ-101X	C CAPACITOR		
	C2011	NCS21HJ-101X	C CAPACITOR		
	C2015	EEKC1AM-476ZJC	E CAPACITOR		
	C2017	EETC1CM-476ZJC	E CAPACITOR		
	C2101	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C2102	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C2103	QFLM1HJ-272Z	M CAPACITOR	2700PF 5% 50V	
	C2104	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C2106	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C2107	EETC1HM-475ZJC	E CAPACITOR		
	C2108	EETC1HM-475ZJC	E CAPACITOR		
	C2110	QTE1V06-106Z	E CAPACITOR		
	C2112	NCS21HJ-221X	C CAPACITOR		
	C2114	QFN31HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C2115	EEKC1EM-106ZJC	E CAPACITOR		
	C2116	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	
	C2117	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	
	C2118	QDGB1HK-102Y	C CAPACITOR		
	C2119	QFLC1HJ-123Z	M CAPACITOR	.012MF 5% 50V	
	C2120	EETC1HM-475ZJC	E CAPACITOR		
	C2121	NCS21HJ-221X	C CAPACITOR		
	C2201	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C2202	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C2203	QFLM1HJ-272Z	M CAPACITOR	2700PF 5% 50V	
	C2204	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C2206	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C2207	EETC1HM-475ZJC	E CAPACITOR		
	C2208	EETC1HM-475ZJC	E CAPACITOR		
	C2210	QTE1V06-106Z	E CAPACITOR		
	C2212	NCS21HJ-221X	C CAPACITOR		
	C2214	QFN31HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C2215	EEKC1EM-106ZJC	E CAPACITOR		
	C2216	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	
	C2217	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	
	C2218	QDGB1HK-102Y	C CAPACITOR		
	C2219	QFLC1HJ-123Z	M CAPACITOR	.012MF 5% 50V	
	C2220	EETC1HM-475ZJC	E CAPACITOR		
	C2221	NCS21HJ-221X	C CAPACITOR		
	C2305	QDGB1HK-102Y	C CAPACITOR		
	C2306	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C2307	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C2308	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C2309	QDGB1HK-102Y	C CAPACITOR		
	C2310	QDGB1HK-102Y	C CAPACITOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	C2313	QDGB1HK-102Y	C CAPACITOR		
	C2316	QDYB1CM-103Y	C CAPACITOR		
	C2317	QEKC0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C2318	QDVB1EZ-223Y	C CAPACITOR		
	C2319	QDVB1EZ-223Y	C CAPACITOR		
	C2322	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C2326	QDGB1HK-102Y	C CAPACITOR		
	C2351	QER61EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C2352	QER61CM-107Z	E CAPACITOR	100MF 20% 16V	
	C2451	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C2452	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C2453	NCB21HK-103X	C CAPACITOR		
	C2501	QEKC1EM-106Z	E CAPACITOR	10MF 20% 25V	
	C2502	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C2701	NCB21HK-102X	C CAPACITOR		
	C2702	NCB21HK-102X	C CAPACITOR		
	C2703	NCS21HJ-470X	C CAPACITOR		
	C2704	NCS21HJ-270X	C CAPACITOR		
	C2705	NCS21HJ-330X	C CAPACITOR		
	C2706	NCS21HJ-470X	C CAPACITOR		
	C2707	NCB21HK-102X	C CAPACITOR		
	C2708	EEKC1CM-107ZJC	E CAPACITOR		
	C2709	NCB21HK-103X	C CAPACITOR		
	C2710	NCS21HJ-220X	C CAPACITOR		
	C2711	NCS21HJ-220X	C CAPACITOR		
	C2712	QETM0JM-228	E CAPACITOR	2200MF 20% 6.3V	
	C2713	EEKC1HM-225ZJC	E CAPACITOR		
	C2714	EEKC1HM-475ZJC	E CAPACITOR		
	C2715	EETC1CM-107ZJC	E CAPACITOR		
	C2716	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C2751	EEKC1HM-105ZJC	E CAPACITOR		
	C2752	EEKC1HM-105ZJC	E CAPACITOR		
	C2753	EEKC1HM-105ZJC	E CAPACITOR		
	C2852	QDYB1CM-103Y	C CAPACITOR		
	C2853	EEKC1CM-107ZJC	E CAPACITOR		
	C2855	QDYB1CM-103Y	C CAPACITOR		
	D2001	1SS133-T2	SI DIODE		
	D2301	MTZJ6.2A-T2	ZENER DIODE		
	D2351	MTZJ3.9B-T2	Z DIODE		
	D2352	1SS133-T2	SI DIODE		
	D2353	1SS133-T2	SI DIODE		
	D2451	1SS133-T2	SI DIODE		
	D2452	1SS133-T2	SI DIODE		
	D2453	MTZJ3.3B-T2	ZENER DIODE		
	D2456	MTZJ7.5C-T2	ZENER DIODE		
	D2701	1SS133-T2	SI DIODE	US5V	
	D2702	1SS133-T2	SI DIODE		
	D2703	MTZJ5.1C-T2	ZENER DIODE		
	D2704	MTZJ8.2B-T2	DIODE		
	D2705	1SS133-T2	SI DIODE		
	D2706	1SS133-T2	SI DIODE		
	D2707	1SS133-T2	SI DIODE		
	D2708	1SS133-T2	SI DIODE		
	D2851	MTZJ5.1B-T2	ZENER DIODE		
	D2852	MTZJ6.8B-T2	ZENER DIODE		
	IC701	UPD784215AGF506	IC	SYSTEM MICOM	
	IC702	LC75342	IC		
	IC703	LB1641	IC		
	IC704	KIA78S06P-T	IC	US6V REG	
	J2001	QNN0018-001	PIN JACK	AUX I/O JACK	
	K2001	QQR0621-001Z	FERRITE BEADS		
	K2002	QQR0621-001Z	FERRITE BEADS		
	K2301	QQR0621-001Z	FERRITE BEADS		

■ **Electrical parts list (System control board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	K2302	QQR0621-001Z	FERRITE BEADS		
	K2303	QQR0621-001Z	FERRITE BEADS		
	K2304	QQR0621-001Z	FERRITE BEADS		
	K2305	QQR0621-001Z	FERRITE BEADS		
	K2306	QQR0621-001Z	FERRITE BEADS		
	LF711	QQR0590-001	FILTER		
	LF721	QQR0590-001	FILTER		
	L2001	QQL244K-100Z	INDUCTOR		
	L2002	QQL244K-100Z	INDUCTOR		
	L2101	QQL231K-4R7Y	INDUCTOR		
	L2201	QQL231K-4R7Y	INDUCTOR		
	L2302	QQL173K-470Z	INDUCTOR		
	L2304	QQL231K-4R7Y	INDUCTOR		
	L2305	QQL231K-4R7Y	INDUCTOR		
	L2306	QQL231K-4R7Y	INDUCTOR		
	L2401	QQL49AK-470Z	INDUCTOR		
	Q2103	2SC2412K/R/-X	TRANSISTOR		
	Q2104	2SC2412K/R/-X	TRANSISTOR		
	Q2203	2SC2412K/R/-X	TRANSISTOR		
	Q2204	2SC2412K/R/-X	TRANSISTOR		
	Q2301	2SC2001/LK/-T	TRANSISTOR		
	Q2351	2SA1037AK/R/-X	TRANSISTOR		
	Q2352	2SC2412K/R/-X	TRANSISTOR		
	Q2451	KRA101M-T	TRANSISTOR		
	Q2452	KRA101M-T	D.TRANSISTOR		
	Q2453	KRC102M-T	D.TRANSISTOR		
	Q2701	2SC2668/O/-T	TRANSISTOR	CLOCK SHIFT	
	Q2702	2SC2668/O/-T	TRANSISTOR	CLOCK SHIFT	
	Q2703	2SA1037AK/RS/-X	TRANSISTOR	SW5V	
	Q2704	2SC2412K/R/-X	TRANSISTOR	RESET SW	
	Q2705	2SC2412K/R/-X	TRANSISTOR	BACKUP CONT	
	Q2706	2SC2412K/R/-X	TRANSISTOR		
	Q2707	2SC2412K/R/-X	TRANSISTOR		
	Q2708	2SC2412K/R/-X	TRANSISTOR		
	Q2709	2SC2412K/R/-X	TRANSISTOR		
	Q2710	2SC2412K/R/-X	TRANSISTOR		
	Q2711	2SC2412K/R/-X	TRANSISTOR		
	Q2712	2SC2412K/R/-X	TRANSISTOR		
	Q2713	2SC2412K/R/-X	TRANSISTOR		
	Q2714	2SC2412K/R/-X	TRANSISTOR		
	Q2715	2SC2412K/R/-X	TRANSISTOR		
	Q2716	2SC2412K/R/-X	TRANSISTOR		
	Q2717	2SC2412K/R/-X	TRANSISTOR		
	Q2853	KTC3199/GL/-T	TRANSISTOR		
	R2001	NRSA02J-102X	MG RESISTOR		
	R2002	NRSA02J-103X	MG RESISTOR		
	R2003	NRSA02J-222X	MG RESISTOR		
	R2004	NRSA02J-222X	MG RESISTOR		
	R2005	NRSA02J-222X	MG RESISTOR		
	R2006	NRSA02J-222X	MG RESISTOR		
	R2007	NRSA02J-222X	MG RESISTOR		
	R2008	NRSA02J-103X	MG RESISTOR		
	R2009	NRSA02J-222X	MG RESISTOR		
	R2010	NRSA02J-222X	MG RESISTOR		
	R2011	NRSA02J-102X	MG RESISTOR		
	R2012	NRSA02J-153X	MG RESISTOR		
	R2014	NRSA02J-222X	MG RESISTOR		
	R2015	NRSA02J-102X	MG RESISTOR		
	R2016	NRSA02J-103X	MG RESISTOR		
	R2017	NRSA02J-103X	MG RESISTOR		
	R2018	NRSA02J-222X	MG RESISTOR		
	R2019	NRSA02J-222X	MG RESISTOR		
	R2020	NRSA02J-103X	MG RESISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	R2021	NRSA02J-103X	MG RESISTOR		
	R2022	NRSA02J-222X	MG RESISTOR		
	R2023	NRSA02J-102X	MG RESISTOR		
	R2024	NRSA02J-102X	MG RESISTOR		
	R2025	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R2026	NRSA02J-222X	MG RESISTOR		
	R2027	NRSA02J-102X	MG RESISTOR		
	R2028	NRSA02J-103X	MG RESISTOR		
	R2029	NRSA02J-102X	MG RESISTOR		
	R2030	NRSA02J-104X	MG RESISTOR		
	R2031	NRSA02J-104X	MG RESISTOR		
	R2032	NRSA02J-102X	MG RESISTOR		
	R2033	NRSA02J-222X	MG RESISTOR		
	R2034	NRSA02J-102X	MG RESISTOR		
	R2035	NRSA02J-222X	MG RESISTOR		
	R2036	NRSA02J-222X	MG RESISTOR		
	R2037	NRSA02J-222X	MG RESISTOR		
	R2038	NRSA02J-102X	MG RESISTOR		
	R2039	NRSA02J-103X	MG RESISTOR		
	R2041	NRSA02J-222X	MG RESISTOR		
	R2042	NRSA02J-222X	MG RESISTOR		
	R2043	NRSA02J-222X	MG RESISTOR		
	R2044	NRSA02J-222X	MG RESISTOR		
	R2045	NRSA02J-103X	MG RESISTOR		
	R2046	NRSA02J-222X	MG RESISTOR		
	R2047	NRSA02J-103X	MG RESISTOR		
	R2051	NRSA02J-222X	MG RESISTOR		
	R2052	NRSA02J-222X	MG RESISTOR		
	R2053	NRSA02J-102X	MG RESISTOR		
	R2054	NRSA02J-102X	MG RESISTOR		
	R2055	NRSA02J-102X	MG RESISTOR		
	R2056	NRSA02J-102X	MG RESISTOR		
	R2057	NRSA02J-222X	MG RESISTOR		
	R2058	NRSA02J-222X	MG RESISTOR		
	R2059	NRSA02J-103X	MG RESISTOR		
	R2060	NRSA02J-222X	MG RESISTOR		
	R2061	NRSA02J-222X	MG RESISTOR		
	R2062	NRSA02J-102X	MG RESISTOR		
	R2063	NRSA02J-102X	MG RESISTOR		
	R2064	NRSA02J-102X	MG RESISTOR		
	R2065	NRSA02J-102X	MG RESISTOR		
	R2066	NRSA02J-102X	MG RESISTOR		
	R2067	NRSA02J-222X	MG RESISTOR		
	R2068	NRSA02J-103X	MG RESISTOR		
	R2069	NRSA02J-103X	MG RESISTOR		
	R2070	NRSA02J-103X	MG RESISTOR		
	R2071	NRSA02J-103X	MG RESISTOR		
	R2072	NRSA02J-222X	MG RESISTOR		
	R2073	NRSA02J-222X	MG RESISTOR		
	R2075	NRSA02J-222X	MG RESISTOR		
	R2077	NRSA02J-222X	MG RESISTOR		
	R2084	NRSA02J-103X	MG RESISTOR		
	R2085	NRSA02J-473X	MG RESISTOR		
	R2086	NRSA02J-473X	MG RESISTOR		
	R2087	NRSA02J-473X	MG RESISTOR		
	R2088	NRSA02J-104X	MG RESISTOR		
	R2090	NRSA02J-222X	MG RESISTOR		
	R2091	NRSA02J-473X	MG RESISTOR		
	R2092	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R2093	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R2094	NRSA02J-222X	MG RESISTOR		
	R2101	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R2103	NRSA02J-203X	MG RESISTOR		

■ **Electrical parts list (System control board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	R2104	NRSA02J-393X	MG RESISTOR		
	R2106	NRSA02J-153X	MG RESISTOR		
	R2110	NRSA02J-122X	MG RESISTOR		
	R2111	NRSA02J-682X	MG RESISTOR		
	R2112	NRSA02J-222X	MG RESISTOR		
	R2113	NRSA02J-123X	MG RESISTOR		
	R2115	QRE141J-622Y	C RESISTOR	6.2K 5% 1/4W	
	R2116	QRE141J-182Y	C RESISTOR	1.8K 5% 1/4W	
	R2117	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R2118	NRSA02J-221X	MG RESISTOR		
	R2119	NRSA02J-222X	MG RESISTOR		
	R2120	NRSA02J-562X	MG RESISTOR		
	R2122	QRE141J-622Y	C RESISTOR	6.2K 5% 1/4W	
	R2123	NRSA02J-222X	MG RESISTOR		
	R2201	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R2203	NRSA02J-203X	MG RESISTOR		
	R2204	NRSA02J-393X	MG RESISTOR		
	R2206	NRSA02J-153X	MG RESISTOR		
	R2210	NRSA02J-122X	MG RESISTOR		
	R2211	NRSA02J-682X	MG RESISTOR		
	R2212	NRSA02J-222X	MG RESISTOR		
	R2213	NRSA02J-123X	MG RESISTOR		
	R2215	QRE141J-622Y	C RESISTOR	6.2K 5% 1/4W	
	R2216	QRE141J-182Y	C RESISTOR	1.8K 5% 1/4W	
	R2217	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R2218	NRSA02J-221X	MG RESISTOR		
	R2219	NRSA02J-222X	MG RESISTOR		
	R2220	NRSA02J-562X	MG RESISTOR		
	R2222	QRE141J-622Y	C RESISTOR	6.2K 5% 1/4W	
	R2223	NRSA02J-222X	MG RESISTOR		
	R2303	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R2304	QRE141J-331Y	C RESISTOR	330 5% 1/4W	
	R2351	NRSA02J-390X	MG RESISTOR		
	R2352	NRSA02J-222X	MG RESISTOR		
	R2353	NRSA02J-333X	MG RESISTOR		
	R2354	NRSA02J-101X	MG RESISTOR		
	R2503	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2504	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2505	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2701	NRSA02J-103X	MG RESISTOR		
	R2702	NRSA02J-822X	MG RESISTOR		
	R2703	NRSA02J-822X	MG RESISTOR		
	R2704	NRSA02J-103X	MG RESISTOR		
	R2705	NRSA02J-331X	MG RESISTOR		
	R2706	NRSA02J-103X	MG RESISTOR		
	R2707	NRSA02J-103X	MG RESISTOR		
	R2708	NRSA02J-103X	MG RESISTOR		
	R2709	NRSA02J-103X	MG RESISTOR		
	R2710	NRSA02J-104X	MG RESISTOR		
	R2711	NRSA02J-473X	MG RESISTOR		
	R2712	NRSA02J-333X	MG RESISTOR		
	R2713	NRSA02J-102X	MG RESISTOR		
	R2714	NRSA02J-102X	MG RESISTOR		
	R2715	NRSA02J-102X	MG RESISTOR		
	R2716	NRSA02J-102X	MG RESISTOR		
	R2717	NRSA02J-102X	MG RESISTOR		
	R2718	NRSA02J-102X	MG RESISTOR		
	R2719	NRSA02J-391X	MG RESISTOR		
	R2720	NRSA02J-391X	MG RESISTOR		
	R2721	NRSA02J-681X	MG RESISTOR		
	R2722	NRSA02J-681X	MG RESISTOR		
	R2723	NRSA02J-681X	MG RESISTOR		
	R2724	NRSA02J-681X	MG RESISTOR		
	R2725	NRSA02J-391X	MG RESISTOR		
	R2726	NRSA02J-391X	MG RESISTOR		
	R2727	NRSA02J-681X	MG RESISTOR		
	R2728	NRSA02J-681X	MG RESISTOR		
	R2729	NRSA02J-681X	MG RESISTOR		
	R2730	NRSA02J-681X	MG RESISTOR		
	R2731	NRSA02J-391X	MG RESISTOR		
	R2732	NRSA02J-391X	MG RESISTOR		
	R2733	NRSA02J-681X	MG RESISTOR		
	R2734	NRSA02J-681X	MG RESISTOR		
	R2735	NRSA02J-681X	MG RESISTOR		
	R2736	NRSA02J-681X	MG RESISTOR		
	R2740	NRSA02J-222X	MG RESISTOR		
	R2741	NRSA02J-222X	MG RESISTOR		
	R2742	NRSA02J-222X	MG RESISTOR		
	R2743	NRSA02J-222X	MG RESISTOR		
	R2744	NRSA02J-222X	MG RESISTOR		
	R2745	NRSA02J-222X	MG RESISTOR		
	R2852	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R2853	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2854	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2855	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R2856	QRE141J-9R1Y	C RESISTOR	9.1 5% 1/4W	
	X2701	QAX0283-001Z	CRYSTAL	MAIN CLOCK	
	X2702	QAX0401-001	CRYSTAL	SUB CLOCK	

■ **Electrical parts list (Main AMP. board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	CN801	QGB2510K2-13	CONNECTOR		
	CN802	QGB2510K2-13	CONNECTOR		
	CN803	QGA3901C1-04	4P CONNECTOR		
	CN804	QGA2501C1-05	5P CONNECTOR		
	CN805	QGA7901C1-02	CONNECTOR		
	CN806	QGA2501C1-02	2P CONNECTOR		
	CN807	QGA2501C1-02	2P CONNECTOR		
	CN905	QGF1201F3-07	CONNECTOR		
	CN908	QGF1016F1-17	CONNECTOR	TO CONN. BOARD	
	CN909	QGF1201C3-18	FFC/FPC CONNE	FROM FMB	
	CN911	QGF1016C1-17	CONNECTOR	FROM CONN.BOARD	
	CN912	QGB2024K1-17S	CONNECTOR	TO LCD	
	CN913	QGB2024J1-17S	B TO B CONNE	LED CONN.	
	C1001	QCF31HZ-223Z	C CAPACITOR	.022MF +80:-20%	
	C1002	QCF31HZ-223Z	C CAPACITOR	.022MF +80:-20%	
	C1003	QCF31HZ-223Z	C CAPACITOR	.022MF +80:-20%	
	C1004	QCF31HZ-223Z	C CAPACITOR	.022MF +80:-20%	
	C1007	QDGB1HK-103Y	C CAPACITOR		
	C1008	QDGB1HK-102Y	C CAPACITOR		
	C1009	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
⚠	C1010	QETM1CM-478	E CAPACITOR	4700MF 20% 16V	
	C1014	QFLK1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C1015	QFLK1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C1016	QFLK1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C1017	QFLK1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
⚠	C1018	QEZ0512-828	E CAPACITOR	8200MF	
	C1026	EETC1HM-105ZJC	E CAPACITOR		
	C1027	EETC1HM-106ZJC	E CAPACITOR		
	C1032	EETC1EM-476ZJC	E CAPACITOR		
	C1033	EETC1EM-476ZJC	E CAPACITOR		
	C1042	EETC1HM-106ZJC	E CAPACITOR		
	C1043	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C1046	QETN1HM-336Z	E CAPACITOR	33MF 20% 50V	
	C1047	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C1052	EETC1HM-105ZJC	E CAPACITOR		
	C1053	EETC1HM-105ZJC	E CAPACITOR		
	C1054	QFLC1HJ-563Z	TF CAPACITOR	.056MF 5% 50V	
	C1055	QFLC1HJ-563Z	TF CAPACITOR	.056MF 5% 50V	
	C1056	QFLK1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C1057	EETC1HM-225ZJC	E CAPACITOR		
	C1058	QEKC1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C1090	QDYB1CM-103Y	C CAPACITOR		
	C1101	QFVF1HJ-274Z	MF CAPACITOR	.27MF 5% 50V	
	C1102	QFVJ1HJ-823Z	MF CAPACITOR	.082MF 5% 50V	
	C1103	QFVJ1HJ-823Z	MF CAPACITOR	.082MF 5% 50V	
	C1104	QTE1C06-226Z	E CAPACITOR		
	C1105	QTE1V06-106Z	E CAPACITOR		
	C1106	QDGB1HK-102Y	C CAPACITOR		
	C1107	QCBB1HK-331Y	C CAPACITOR	330PF 10% 50V	
	C1108	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C1109	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C1110	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	
	C1111	QDXB1CM-332Y	C CAPACITOR		
	C1201	QFVF1HJ-274Z	MF CAPACITOR	.27MF 5% 50V	
	C1202	QFVJ1HJ-823Z	MF CAPACITOR	.082MF 5% 50V	
	C1203	QFVJ1HJ-823Z	MF CAPACITOR	.082MF 5% 50V	
	C1204	QTE1C06-226Z	E CAPACITOR		
	C1205	QTE1V06-106Z	E CAPACITOR		
	C1206	QDGB1HK-102Y	C CAPACITOR		
	C1207	QCBB1HK-331Y	C CAPACITOR	330PF 10% 50V	
	C1208	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C1209	QFVF1HJ-104Z	MF CAPACITOR	.10MF 5% 50V	
	C1210	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C1211	QDXB1CM-332Y	C CAPACITOR		
	C1301	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C1401	QER61EM-106Z	E CAPACITOR	10MF 20% 25V	
	C1402	EETC1HM-226ZJC	E CAPACITOR		
	C1501	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	
	C1502	QTE1C06-226Z	E CAPACITOR		
	C1503	QTE1C06-476Z	E CAPACITOR		
	C1601	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	
	C1602	QDYB1CM-103Y	C CAPACITOR		
	C1603	EETC1CM-107ZJC	E CAPACITOR		
	C1703	QDGB1HK-103Y	C CAPACITOR		
	C1704	QDGB1HK-102Y	C CAPACITOR		
	C1705	QDGB1HK-102Y	C CAPACITOR		
	C1706	QENC1HM-106Z	NP E CAPACITOR	10MF 20% 50V	
	C1707	QENC1HM-106Z	NP E CAPACITOR	10MF 20% 50V	
	C1709	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C1710	QCBB1HK-181Y	C CAPACITOR	180PF 10% 50V	
	C1801	QDYB1CM-103Y	C CAPACITOR		
	C1802	EETC1EM-476ZJC	E CAPACITOR		
	C1803	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	
	C1901	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	
	C1902	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	
	C1903	QDYB1CM-103Y	C CAPACITOR		
	C1904	EETC1EM-476ZJC	E CAPACITOR		
	C1905	QDYB1CM-103Y	C CAPACITOR		
	C1907	EEKC1CM-106ZJC	E CAPACITOR		
	C2901	QER41AM-107	E CAPACITOR	100MF 20% 10V	
	C2902	QDGB1HK-102Y	C CAPACITOR		
	C2904	QCBB1HK-223Y	C CAPACITOR	.022MF 10% 50V	
	D1001	1N4003S-T5	SI DIODE		
	D1002	1N4003S-T5	SI DIODE		
	D1003	1N4003S-T5	SI DIODE		
	D1004	1N4003S-T5	SI DIODE		
	D1005	1N4003S-T5	SI DIODE		
	D1012	6A10E2	SI DIODE		
	D1013	6A10E2	SI DIODE		
	D1014	6A10E2	SI DIODE		
	D1015	6A10E2	SI DIODE		
	D1023	1SS133-T2	SI DIODE		
	D1024	1SS133-T2	SI DIODE		
	D1025	MTZJ4.3B-T2	ZENER DIODE		
	D1026	1SS133-T2	SI DIODE		
	D1027	1SS133-T2	SI DIODE		
	D1301	MTZJ11A-T2	ZENER DIODE		
	D1401	MTZJ3.6B-T2	S.B.DIODE		
	D1402	MTZJ10A-T2	ZENER DIODE		
	D1501	MTZJ6.2C-T2	Z DIODE		
	D1601	1SS133-T2	SI DIODE		
	D1602	MTZJ5.6B-T2	ZENER DIODE		
	D1603	MTZJ18C-T2	ZENER DIODE		
	D1604	MTZJ5.6C-T2	ZENER DIODE		
	D1702	1SS133-T2	SI DIODE		
	D1801	MTZJ7.5C-T2	ZENER DIODE		
	D1901	1SS133-T2	SI DIODE		
	D1902	MTZJ5.6C-T2	ZENER DIODE		
	D1903	MTZJ10A-T2	ZENER DIODE		
	D1904	1SS133-T2	SI DIODE		
	D2601	1SS133-T2	SI DIODE		
	D2602	SPR-39MVWF	LED		
	D2902	MTZJ7.5C-T2	ZENER DIODE		
	D2903	MTZJ7.5C-T2	ZENER DIODE		
	D2906	MTZJ7.5C-T2	ZENER DIODE		
	D2907	MTZJ7.5C-T2	ZENER DIODE		

■ **Electrical parts list (Main AMP. board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	D2910	MTZJ7.5C-T2	ZENER DIODE		
	D2911	MTZJ7.5C-T2	ZENER DIODE		
	D2913	QUY150-050Y	BUS WIRE		
	D2914	QUY150-050Y	BUS WIRE		
	D2915	QUY150-050Y	BUS WIRE		
	D2916	QUY150-050Y	BUS WIRE		
	D2917	QUY150-050Y	BUS WIRE		
	D2918	QUY150-050Y	BUS WIRE		
	FW907	QUM025-14DGZ3	FLAT WIRE	TO FMB	
⚠	IC801	LA4628	IC		
	IC802	NJM4580L	IC		
	IC901	GP1U271X	RM RECIVER		
	J1001	QNB0099-001	SPK TERMINAL		
	J1002	QNS0170-001	HEADPHONE JACK		
	J1003	QNC0006-001	AC SOCKET		
	K1001	QQR0621-001Z	FERRITE BEADS		
	K1003	QQR0621-001Z	FERRITE BEADS		
	K1004	QQR0621-001Z	FERRITE BEADS		
	K1006	QQR0621-001Z	FERRITE BEADS		
	K1007	QQR0621-001Z	FERRITE BEADS		
	K1009	QQR0779-001Z	INDUCTOR		
	K1010	QQR0779-001Z	INDUCTOR		
	L1003	QQL231K-470Y	INDUCTOR		
	L1004	QQL231K-470Y	INDUCTOR		
	L1005	QQL231K-470Y	INDUCTOR		
	L1006	QQR1145-001	LINE FILTER	EMC FILTER	
	L1101	QQR0797-001	INDUCTOR		
	L1201	QQR0797-001	INDUCTOR		
	PP801	QZW0038-001	WIRE CLAMP		
	PP802	QZW0038-001	WIRE CLAMP		
	PP804	QZW0038-001	WIRE CLAMP		
	Q1023	KRA101M-T	TRANSISTOR		
	Q1101	KTC3199/GL/-T	TRANSISTOR		
	Q1102	2SC3576-JVC-T	TRANSISTOR		
	Q1201	KTC3199/GL/-T	TRANSISTOR		
	Q1202	2SC3576-JVC-T	TRANSISTOR		
	Q1301	2SC2001/LK/-T	TRANSISTOR		
	Q1401	2SB562/BC/-T	TRANSISTOR		
	Q1402	KTC3199/GL/-T	TRANSISTOR		
⚠	Q1501	KTB772/Y/	TRANSISTOR		
	Q1502	2SC3576-JVC-T	TRANSISTOR		
⚠	Q1601	KTB772/Y/	TRANSISTOR		
	Q1602	2SA1175/FE/-T	TRANSISTOR		
	Q1603	DTC144TSA-T	D.TRANSISTOR		
	Q1604	DTA144TSA-T	D.TRANSISTOR		
	Q1605	KTC3199/GL/-T	TRANSISTOR		
	Q1606	KTC3199/GL/-T	TRANSISTOR		
	Q1607	DTC143TSA-T	TRANSISTOR		
	Q1701	DTA144WSA-T	D.TRANSISTOR		
	Q1702	DTA144WSA-T	D.TRANSISTOR		
	Q1703	DTA144WSA-T	D.TRANSISTOR		
	Q1704	DTA144WSA-T	D.TRANSISTOR		
	Q1705	DTC144WSA-T	D.TRANSISTOR		
⚠	Q1801	KTB772/Y/	TRANSISTOR		
	Q1802	KTC3199/GL/-T	TRANSISTOR		
	Q1803	KTC3199/GL/-T	TRANSISTOR		
	Q1901	KTA1046/Y/	TRANSISTOR		
	Q1902	KTA1267/YG/-T	TRANSISTOR		
	Q1903	KRC114M-T	TRANSISTOR		
	Q1904	DTA144TSA-T	D.TRANSISTOR		
	Q1905	KTC3199/GL/-T	TRANSISTOR		
	Q1906	KTC3199/GL/-T	TRANSISTOR		
	Q1908	2SA1038S/SE/-T	TRANSISTOR		
	Q1909	2SA1038S/SE/-T	TRANSISTOR		
	Q1910	DTC144ESA-T	D.TRANSISTOR		
	Q2601	DTC114ESA-T	D.TRANSISTOR		
⚠	R1022	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	
	R1049	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R1050	QRE141J-513Y	C RESISTOR	51K 5% 1/4W	
	R1051	QRE141J-154Y	C RESISTOR	150K 5% 1/4W	
	R1054	QRE141J-124Y	C RESISTOR	120K 5% 1/4W	
	R1059	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R1060	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R1065	QRE141J-224Y	C RESISTOR	220K 5% 1/4W	
	R1066	QRE141J-224Y	C RESISTOR	220K 5% 1/4W	
	R1077	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1086	QRE141J-682Y	C RESISTOR	6.8K 5% 1/4W	
	R1087	QRE141J-682Y	C RESISTOR	6.8K 5% 1/4W	
	R1090	QRE141J-151Y	C RESISTOR	150 5% 1/4W	
	R1091	QRE141J-151Y	C RESISTOR	150 5% 1/4W	
	R1101	QRE141J-182Y	C RESISTOR	1.8K 5% 1/4W	
	R1102	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1103	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1104	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1105	QRE141J-153Y	C RESISTOR	15K 5% 1/4W	
	R1106	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1107	QRE141J-153Y	C RESISTOR	15K 5% 1/4W	
	R1108	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R1109	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1110	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1111	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R1112	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R1113	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R1114	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R1115	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R1201	QRE141J-182Y	C RESISTOR	1.8K 5% 1/4W	
	R1202	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1203	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1204	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1205	QRE141J-153Y	C RESISTOR	15K 5% 1/4W	
	R1206	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1207	QRE141J-153Y	C RESISTOR	15K 5% 1/4W	
	R1208	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R1209	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1210	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1211	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R1212	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R1213	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R1214	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R1215	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R1301	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R1401	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1402	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1403	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
⚠	R1404	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	
	R1501	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R1502	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1503	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1601	QRE141J-1R0Y	C RESISTOR	1.0 5% 1/4W	
	R1602	QRE141J-1R0Y	C RESISTOR	1.0 5% 1/4W	
	R1603	QRE141J-1R0Y	C RESISTOR	1.0 5% 1/4W	
	R1604	QRE141J-391Y	C RESISTOR	390 5% 1/4W	
	R1605	QRE141J-911Y	C RESISTOR	910 5% 1/4W	
	R1606	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R1607	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1608	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	

■ **Electrical parts list (Main AMP. board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	R1609	QRE141J-181Y	C RESISTOR	180 5% 1/4W	
	R1610	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1611	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R1612	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R1613	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R1614	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1615	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1616	QRE141J-622Y	C RESISTOR	6.2K 5% 1/4W	
	R1617	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1702	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R1703	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R1704	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R1705	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R1801	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1802	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1803	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1804	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1805	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1806	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R1807	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1901	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R1902	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R1903	QRE141J-1R2Y	C RESISTOR	1.2 5% 1/4W	
	R1904	QRE141J-1R2Y	C RESISTOR	1.2 5% 1/4W	
	R1905	QRE141J-1R2Y	C RESISTOR	1.2 5% 1/4W	
	R1906	QRE141J-1R2Y	C RESISTOR	1.2 5% 1/4W	
	R1907	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1908	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R1909	QRE141J-752Y	C RESISTOR	7.5K 5% 1/4W	
	R1910	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R1911	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1912	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1913	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1914	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1915	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1916	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R1917	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R1918	QRE141J-682Y	C RESISTOR	6.8K 5% 1/4W	
	R1919	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1920	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1921	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1923	QRE141J-512Y	C RESISTOR	5.1K 5% 1/4W	
	R1924	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1925	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1926	QRE141J-153Y	C RESISTOR	15K 5% 1/4W	
	R2601	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R2602	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R2603	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R2604	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R2605	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2606	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R2607	QRE141J-392Y	C RESISTOR	3.9K 5% 1/4W	
	R2608	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R2609	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R2610	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R2611	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R2612	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R2613	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R2614	QRE141J-161Y	C RESISTOR	160 5% 1/4W	
	R2615	QRE141J-470Y	C RESISTOR	47 5% 1/4W	
	R2901	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R2911	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R2912	QRE141J-221Y	C RESISTOR	220 5% 1/4W	

⚠	Item	Parts number	Parts name	Remarks	Area
	R2913	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R3001	QRE141J-301Y	C RESISTOR	300 5% 1/4W	
	S2601	QSW0674-001Z	TACT SWITCH	MD OPEN/CLOSE	
	S2602	QSW0674-001Z	TACT SWITCH	MD	
	S2603	QSW0674-001Z	TACT SWITCH	CD	
	S2604	QSW0674-001Z	TACT SWITCH	TAPE	
	S2605	QSW0674-001Z	TACT SWITCH	FM/AM	
	S2606	QSW0674-001Z	TACT SWITCH	CD OPEN/CLOSE	
	S2607	QSW0674-001Z	TACT SWITCH	VOLUME +	
	S2608	QSW0674-001Z	TACT SWITCH	VOLUME -	
	S2609	QSW0674-001Z	TACT SWITCH	POWER	
	S2610	QSW0674-001Z	TACT SWITCH	COLOR	
	S2611	QSW0674-001Z	TACT SWITCH	AUX	
	S2612	QSW0674-001Z	TACT SWITCH	REC MODE	
	S2613	QSW0674-001Z	TACT SWITCH	REC	
	S2614	QSW0674-001Z	TACT SWITCH	REVERSE	
	S2615	QSW0674-001Z	TACT SWITCH	FORWARD	
	S2616	QSW0674-001Z	TACT SWITCH	STOP	
	S2901	SG-105F3-BB,C	PHOTO SENSER	UP DETECT	
	S2902	SG-105F3-BB,C	PHOTO SENSER	CENTER DETECT	
	S2903	SG-105F3-BB,C	PHOTO SENSER	DOWN DETECT	
	T1002	QAD0015-103Z	THERMISTOR		
	W 802	RT-01T-1.3B	PIN SOCKET		
	W1001	QJK017-053200	WIRE		
	Z1001	QNG0020-001Z	FUSE CLIP		
	Z1002	QNG0020-001Z	FUSE CLIP		
	Z1003	QNG0020-001Z	FUSE CLIP		
	Z1004	QNG0020-001Z	FUSE CLIP		
	Z1005	QNG0020-001Z	FUSE CLIP		
	Z1006	QNG0020-001Z	FUSE CLIP		

■ **Electrical parts list (Tuner board)** **Block No. 04**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 1	NCB21HK-223X	C CAPACITOR		
	C 2	NCB21HK-103X	C CAPACITOR		
	C 3	EETC1CM-106ZJC	E CAPACITOR		
	C 4	NCB21HK-103X	C CAPACITOR		
	C 6	NCB21HK-102X	C CAPACITOR		
	C 7	NCB21HK-102X	C CAPACITOR		
	C 8	NCB21HK-102X	C CAPACITOR		
	C 9	NCB21HK-102X	C CAPACITOR		
	C 10	NCS21HJ-120X	C CAPACITOR		
	C 11	NCB21HK-104X	C CAPACITOR		
	C 12	NCB21HK-473X	C CAPACITOR		
	C 13	NCS21HJ-120X	C CAPACITOR		
	C 14	EEKC1AM-107ZJC	E CAPACITOR		
	C 15	NCS21HJ-120X	C CAPACITOR		
	C 16	NCS21HJ-120X	C CAPACITOR		
	C 17	NCB21HK-392X	C CAPACITOR		
	C 18	QEQ61HM-474Z	N.P.E CAPACITOR	.47MF 20% 50V	
	C 19	NCB21HK-473X	C CAPACITOR		
	C 20	NCB21HK-102X	C CAPACITOR		
	C 21	NCB21HK-223X	C CAPACITOR		
	C 22	NCS21HJ-151X	C CAPACITOR		
	C 23	NCS21HJ-151X	C CAPACITOR		
	C 24	NCS21HJ-151X	C CAPACITOR		
	C 25	EEKC1AM-107ZJC	E CAPACITOR		
	C 26	NCB21HK-103X	C CAPACITOR		
	C 27	NCB21HK-103X	C CAPACITOR		
	C 30	EEKC1CM-107ZJC	E CAPACITOR		
	C 31	EEKC1CM-226ZJC	E CAPACITOR		
	C 32	NCB21HK-473X	C CAPACITOR		
	C 33	NCB21HK-473X	C CAPACITOR		
	C 34	NCB21HK-223X	C CAPACITOR		
	C 35	NCB21HK-473X	C CAPACITOR		
	C 36	EEKC1HM-105ZJC	E CAPACITOR		
	C 37	EEKC1HM-105ZJC	E CAPACITOR		
	C 38	EETC1HM-224ZJC	E CAPACITOR		
	C 39	EETC1HM-105ZJC	E CAPACITOR		
	C 40	QETN1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 41	QETN1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 42	NCB21HK-182X	C CAPACITOR		
	C 43	NCB21HK-182X	C CAPACITOR		
	C 44	QETN1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 45	QETN1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 46	NCB21HK-223X	C CAPACITOR		
	C 47	EETC1HM-105ZJC	E CAPACITOR		
	C 48	NCB21HK-222X	C CAPACITOR		
	C 49	NCS21HJ-471X	C CAPACITOR		
	C 50	EEKC1CM-226ZJC	E CAPACITOR		
	C 51	EEKC1HM-105ZJC	E CAPACITOR		
	C 52	QFVJ1HJ-274Z	MF CAPACITOR	.27MF 5% 50V	
	C 53	EETC1CM-226ZJC	E CAPACITOR		
	C 54	NCB21HK-473X	C CAPACITOR		
	C 55	NCS21HJ-330X	C CAPACITOR		
	C 56	NCS21HJ-100X	C CAPACITOR		
	C 57	NCB21HK-102X	C CAPACITOR		
	C 58	NCB21HK-473X	C CAPACITOR		
	C 59	NCB21HK-102X	C CAPACITOR		
	C 70	NCS21HJ-220X	C CAPACITOR		
	C 71	NCS21HJ-220X	C CAPACITOR		
	C 72	NCB21HK-561X	C CAPACITOR		
	C 73	NCB21HK-104X	C CAPACITOR		
	C 74	NCB21HK-104X	C CAPACITOR		
	C 75	EETC1HM-106ZJC	E CAPACITOR		
	C 76	NCB21HK-331X	C CAPACITOR		
	CF 1	QAX0420-001	C FILTER		
	CF 2	QAX0458-001Z	C FILTER		
	CF 3	QAX0610-001Z	C DISCRIMINATOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	CN 1	QGF1205F1-13	CONNECTOR		
	D 1	1SS133-T2	SI DIODE		
	D 2	1SS133-T2	SI DIODE		
	D 3	1SS133-T2	SI DIODE		
	D 4	1SS133-T2	SI DIODE		
	D 11	1SS133-T2	SI DIODE		
	IC 1	LA1838	IC		
	IC 2	LC72136N	IC		
	IC 3	LC72723	IC		
	J 1	QNB0014-001	ANT TERMINAL		
	L 1	QQR1094-001	BLOCK COIL		
	L 2	QQL231K-330Y	INDUCTOR		
	L 3	QQL231K-4R7Y	INDUCTOR		
	L 70	QQL231K-101Y	INDUCTOR		
	Q 1	2SC2814/4-5/-X	TRANSISTOR		
	Q 2	2SC1623/5-6/-X	TRANSISTOR		
	Q 3	2SC1623/5-6/-X	TRANSISTOR		
	Q 4	DTA114YKA-X	TRANSISTOR		
	Q 5	DTA114YKA-X	TRANSISTOR		
	R 2	NRSA02J-331X	MG RESISTOR		
	R 3	NRSA02J-224X	MG RESISTOR		
	R 4	NRSA02J-331X	MG RESISTOR		
	R 5	NRSA02J-560X	MG RESISTOR		
	R 6	NRSA02J-120X	MG RESISTOR		
	R 10	NRSA02J-222X	MG RESISTOR		
	R 11	NRSA02J-472X	MG RESISTOR		
	R 12	NRSA02J-472X	MG RESISTOR		
	R 13	NRSA02J-103X	MG RESISTOR		
	R 14	NRSA02J-104X	MG RESISTOR		
	R 15	NRSA02J-332X	MG RESISTOR		
	R 16	NRSA02J-472X	MG RESISTOR		
	R 17	QRZ9005-680X	F RESISTOR	68 1/0W	
	R 18	NRSA02J-102X	MG RESISTOR		
	R 19	NRSA02J-102X	MG RESISTOR		
	R 20	NRSA02J-102X	MG RESISTOR		
	R 21	NRSA02J-562X	MG RESISTOR		
	R 22	NRSA02J-472X	MG RESISTOR		
	R 23	NRSA02J-182X	MG RESISTOR		
	R 24	NRSA02J-103X	MG RESISTOR		
	R 25	NRSA02J-331X	MG RESISTOR		
	R 26	NRSA02J-222X	MG RESISTOR		
	R 27	NRSA02J-103X	MG RESISTOR		
	R 28	NRSA02J-103X	MG RESISTOR		
	R 29	NRSA02J-103X	MG RESISTOR		
	R 30	NRSA02J-122X	MG RESISTOR		
	R 31	NRSA02J-102X	MG RESISTOR		
	R 32	NRSA02J-102X	MG RESISTOR		
	R 33	NRSA02J-331X	MG RESISTOR		
	R 34	NRSA02J-470X	MG RESISTOR		
	R 35	NRSA02J-562X	MG RESISTOR		
	R 36	NRSA02J-332X	MG RESISTOR		
	R 37	NRSA02J-103X	MG RESISTOR		
	R 38	NRSA02J-393X	MG RESISTOR		
	R 39	NRSA02J-393X	MG RESISTOR		
	R 40	NRSA02J-393X	MG RESISTOR		
	R 41	NRSA02J-332X	MG RESISTOR		
	R 60	NRSA02J-0R0X	MG RESISTOR		
	R 70	NRSA02J-103X	MG RESISTOR		
	R 71	NRSA02J-102X	MG RESISTOR		
	R 72	NRSA02J-102X	MG RESISTOR		
	R 73	NRSA02J-102X	MG RESISTOR		
	T 1	QQR0793-001	IFT		
	TU 1	QAU0160-001	FRONT END		
	X 1	QAX0402-001	CRYSTAL		
	X 70	QAX0263-001Z	CRYSTAL		

■ **Electrical parts list (MD servo board)** **Block No. 05**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 300	NCF31CZ-104X	C CAPACITOR		
	C 302	NCF31CZ-104X	C CAPACITOR		
	C 307	NCB31HK-222X	C CAPACITOR		
	C 310	NCB31HK-102X	C CAPACITOR		
	C 311	NCF21CZ-105X	C CAPACITOR		
	C 312	NEA70GM-476X	E CAPACITOR		
	C 314	NCB31EK-223X	C CAPACITOR		
	C 315	NCB31HK-102X	C CAPACITOR		
	C 316	NCF21CZ-105X	C CAPACITOR		
	C 318	NCB31HK-682X	C CAPACITOR		
	C 319	NCB31CK-333X	C CAPACITOR		
	C 320	NCB21AK-105X	C CAPACITOR		
	C 321	NCB31HK-472X	C CAPACITOR		
	C 322	NCB21AK-105X	C CAPACITOR		
	C 323	NCB31HK-682X	C CAPACITOR		
	C 324	NCB21CK-224X	C CAPACITOR		
	C 325	NCB31CK-103X	C CAPACITOR		
	C 326	NCB31EK-223X	C CAPACITOR		
	C 327	NCB31CK-104X	C CAPACITOR		
	C 328	NCB31CK-104X	C CAPACITOR		
	C 330	NCF31CZ-104X	C CAPACITOR		
	C 333	NCB21CK-154X	C CAPACITOR		
	C 334	NCF31CZ-104X	C CAPACITOR		
	C 340	NCB31EK-223X	C CAPACITOR		
	C 341	NCB31EK-223X	C CAPACITOR		
	C 342	NCF31CZ-104X	C CAPACITOR		
	C 350	NEA70GM-476X	E CAPACITOR		
	C 351	NCF21CZ-105X	C CAPACITOR		
	C 352	NEA70GM-476X	E CAPACITOR		
	C 353	NCF21CZ-105X	C CAPACITOR		
	C 354	NCF21CZ-105X	C CAPACITOR		
	C 355	NCF31CZ-104X	C CAPACITOR		
	C 358	NCF31CZ-104X	C CAPACITOR		
	C 359	NCF31CZ-104X	C CAPACITOR		
	C 361	NCF31CZ-104X	C CAPACITOR		
	C 375	NCB31CK-103X	C CAPACITOR		
	C 376	NCB21CK-474X	C CAPACITOR		
	C 377	NCS31HJ-471X	C CAPACITOR		
	C 378	NCS31HJ-330X	C CAPACITOR		
	C 379	NCB21CK-474X	C CAPACITOR		
	C 380	NCB31CK-153X	C CAPACITOR		
	C 390	NCB10JM-106X	C CAPACITOR		
	C 400	NEAD1CM-226X	E CAPACITOR		
	C 401	NEAD0JM-107X	E CAPACITOR		
	C 402	NCB31HK-331X	C CAPACITOR		
	C 403	NEAD0GM-476X	E CAPACITOR		
	C 407	NCS31HJ-101X	C CAPACITOR		
	C 408	NCS31HJ-101X	C CAPACITOR		
	C 409	NCB31CK-104X	C CAPACITOR		
	C 411	NCF21CZ-105X	C CAPACITOR		
	C 412	NCF31CZ-104X	C CAPACITOR		
	C 415	NCB31CK-103X	C CAPACITOR		
	C 421	NCB31HK-561X	C CAPACITOR		
	C 423	NCB31HK-561X	C CAPACITOR		
	C 425	NCB31HK-561X	C CAPACITOR		
	C 427	NCB31HK-561X	C CAPACITOR		
	C 429	NCB31HK-392X	C CAPACITOR		
	C 431	NCB31HK-392X	C CAPACITOR		
	C 433	NCB31HK-562X	C CAPACITOR		
	C 435	NCB31HK-562X	C CAPACITOR		
	C 437	NCB31HK-103X	C CAPACITOR		
	C 439	NCB31HK-103X	C CAPACITOR		
	C 450	NEA71CM-107X	E CAPACITOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	C 451	NEA70GM-107X	E CAPACITOR		
	C 452	NCF31CZ-104X	C CAPACITOR		
	C 453	NCF31CZ-104X	C CAPACITOR		
	C 455	NDC32AJ-101X	C CAPACITOR		
	C 480	NEA70JM-476X	E CAPACITOR		
	C 481	NCF21CZ-105X	C CAPACITOR		
	C 482	NEA70JM-226X	E CAPACITOR		
	C 483	NCF31CZ-104X	C CAPACITOR		
	C 484	NEAD1CM-106X	E CAPACITOR		
	C 485	NCF31CZ-104X	C CAPACITOR		
	C 486	NCF31CZ-104X	C CAPACITOR		
	C 487	NCF31CZ-104X	C CAPACITOR		
	C 488	NEAD1CM-106X	E CAPACITOR		
	C 489	NEAD1VM-475X	E CAPACITOR		
	C 490	NCB31CK-103X	C CAPACITOR		
	C 491	NCB31HK-222X	C CAPACITOR		
	C 492	NCB31HK-222X	C CAPACITOR		
	C 493	NCF21CZ-105X	C CAPACITOR		
	C 496	NCF21CZ-105X	C CAPACITOR		
	C 497	NCF31CZ-104X	C CAPACITOR		
	C 501	NCS31HJ-180X	C CAPACITOR		
	C 502	NCS31HJ-180X	C CAPACITOR		
	C 511	NCF31CZ-104X	C CAPACITOR		
	C 512	NCF31CZ-104X	C CAPACITOR		
	C 515	NCF31CZ-104X	C CAPACITOR		
	C 590	NCS31HJ-101X	C CAPACITOR		
	C 591	NCF31CZ-104X	C CAPACITOR		
	CN321	QGF0501F2-21X	CONNECTOR	FOR PICK-UP A'S	
	CN407	QGF1006F2-08W	SOCKET	FOR CAM SW	
	CN408	QGF1006F2-09W	CONNECTOR	FOR TRAMECHA PW	
	CN451	QGF1016F2-04W	CONNECTOR	FOR HEAD	
	CN521	QGF1006F2-21W	SOCKET	FOR SYSTEM	
	CN601	QGF1006F2-09W	CONNECTOR		
	D 310	1SS355-X	DIODE	TEMP DET	
	D 451	RB160L-60-X	SB DIODE		
	D 452	RB160L-60-X	SB DIODE		
	IC310	CXA2523AR	IC	RF	
	IC340	TC7S08F-W	IC	APC PWM BUFFER	
	IC350	CXD2662R	IC		
	IC390	HY51V17400CT-60	IC	4M*4 DRAM	
	IC400	XC62ER3602M-X	IC		
	IC410	M63008FP-X	IC	BTL DRIVER	
	IC450	BD7910FV-X	IC	DRIVER	
	IC480	AK4519VF-X	IC		
	IC485	TK11140SC-W	IC		
	IC500	HD6432345A15FA	IC(MCU)		
	IC590	AK93C65AF-X	IC	256*16BIT EEPRO	
	K 346	NQR0360-001X	FERRITE BEADS		
	K 353	NQR0389-003X	FERRITE BEADS		
	K 491	NQR0022-005X	FERRITE BEADS		
	K 492	NQR0022-005X	FERRITE BEADS		
	K 495	NQR0022-005X	FERRITE BEADS		
	K 496	NQR0022-005X	FERRITE BEADS		
	K 505	NQR0389-003X	FERRITE BEADS		
	K 521	NQR0354-001X	FERRITE BEADS		
	K 522	NQR0354-001X	FERRITE BEADS		
	K 523	NQR0389-003X	FERRITE BEADS		
	K 524	NQR0389-003X	FERRITE BEADS		
	L 351	NQL38DK-100X	INDUCTOR		
	L 352	NQL38DK-100X	INDUCTOR		
	L 525	NQL274M-1R5X	INDUCTOR		
	L 526	NQL274M-1R5X	INDUCTOR		
	Q 330	2SA1362/G/-X	TRANSISTOR		

■ **Electrical parts list (MD servo board)** **Block No. 05**

⚠	Item	Parts number	Parts name	Remarks	Area
	Q 331	DTA114EKA-X	DIGITAL.TRANSIS		
	Q 332	DTA113ZKA-X	TRANSISTOR		
	Q 333	DTA113ZKA-X	TRANSISTOR		
	Q 400	2SA1363/EF/-X	TRANSISTOR		
	Q 401	2SA1363/EF/-X	TRANSISTOR		
	Q 410	DTC114EKA-X	TRANSISTOR		
	Q 411	DTC114EKA-X	TRANSISTOR		
	R 300	NRSA63J-0R0X	MG RESISTOR		
	R 301	NRS181J-0R0X	MG RESISTOR		
	R 302	NRSA63J-0R0X	MG RESISTOR		
	R 305	NRSA63J-222X	MG RESISTOR		
	R 306	NRSA63J-474X	MG RESISTOR		
	R 309	NRSA63J-474X	MG RESISTOR		
	R 310	NRSA63J-331X	MG RESISTOR		
	R 311	NRSA63J-183X	MG RESISTOR		
	R 312	NRSA63J-103X	MG RESISTOR		
	R 313	NRSA63J-104X	MG RESISTOR		
	R 314	NRSA63J-133X	MG RESISTOR		
	R 315	NRSA63J-243X	MG RESISTOR		
	R 316	NRSA63J-104X	MG RESISTOR		
	R 317	NRSA63J-103X	MG RESISTOR		
	R 320	NRSA63J-563X	MG RESISTOR		
	R 321	NRSA63J-331X	MG RESISTOR		
	R 322	NRSA63J-331X	MG RESISTOR		
	R 323	NRSA63J-331X	MG RESISTOR		
	R 324	NRSA63J-102X	MG RESISTOR		
	R 325	NRSA63J-472X	MG RESISTOR		
	R 326	NRSA63J-331X	MG RESISTOR		
	R 327	NRSA63J-331X	MG RESISTOR		
	R 328	NRSA63J-101X	MG RESISTOR		
	R 330	NRSA63J-8R2X	MG RESISTOR		
	R 331	NRSA63J-270X	MG RESISTOR		
	R 332	NRSA63J-473X	MG RESISTOR		
	R 333	NRSA63J-473X	MG RESISTOR		
	R 334	NRSA63J-473X	MG RESISTOR		
	R 335	NRSA63J-473X	MG RESISTOR		
	R 336	NRSA63J-104X	MG RESISTOR		
	R 337	NRSA63J-1R0X	MG RESISTOR		
	R 338	NRSA63J-4R7X	MG RESISTOR		
	R 339	NRSA63J-473X	MG RESISTOR		
	R 340	NRSA63J-222X	MG RESISTOR		
	R 341	NRSA63J-222X	MG RESISTOR		
	R 342	NRSA63J-222X	MG RESISTOR		
	R 343	NRSA63J-102X	MG RESISTOR		
	R 354	NRSA63D-103X	MG RESISTER		
	R 355	NRSA63D-103X	MG RESISTER		
	R 356	NRSA63J-102X	MG RESISTOR		
	R 361	NRSA63J-102X	MG RESISTOR		
	R 362	NRSA63J-102X	MG RESISTOR		
	R 363	NRSA63J-102X	MG RESISTOR		
	R 364	NRSA63J-102X	MG RESISTOR		
	R 365	NRSA63J-102X	MG RESISTOR		
	R 366	NRSA63J-102X	MG RESISTOR		
	R 367	NRSA63J-102X	MG RESISTOR		
	R 368	NRSA63J-102X	MG RESISTOR		
	R 369	NRSA63J-102X	MG RESISTOR		
	R 370	NRSA63J-104X	MG RESISTOR		
	R 371	NRSA63J-103X	MG RESISTOR		
	R 372	NRSA63J-103X	MG RESISTOR		
	R 375	NRSA63J-103X	MG RESISTOR		
	R 376	NRSA63J-104X	MG RESISTOR		
	R 377	NRSA63J-684X	MG RESISTOR		
	R 378	NRSA63J-332X	MG RESISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	R 379	NRSA63J-102X	MG RESISTOR		
	R 380	NRSA63J-105X	MG RESISTOR		
	R 381	NRSA63J-102X	MG RESISTOR		
	R 382	NRSA63J-151X	MG RESISTOR		
	R 387	NRSA63J-331X	MG RESISTOR		
	R 389	NRSA63J-331X	MG RESISTOR		
	R 390	NRSA63J-331X	MG RESISTOR		
	R 391	NRSA63J-561X	MG RESISTOR		
	R 392	NRSA63J-102X	MG RESISTOR		
	R 393	NRSA63J-102X	MG RESISTOR		
	R 394	NRSA63J-102X	MG RESISTOR		
	R 395	NRSA63J-102X	MG RESISTOR		
	R 396	NRSA63J-331X	MG RESISTOR		
	R 397	NRSA63J-331X	MG RESISTOR		
	R 398	NRSA63J-331X	MG RESISTOR		
	R 399	NRSA63J-331X	MG RESISTOR		
	R 401	NRSA63D-153X	MG RESISTOR		
	R 402	NRSA63D-562X	MG RESISTER		
	R 403	NRSA63D-471X	MG RESISTER		
	R 404	NRSA63D-333X	MG RESISTER		
	R 420	NRSA63D-223X	RESISTOR		
	R 421	NRSA63D-103X	MG RESISTER		
	R 422	NRSA63D-223X	MG RESISTER		
	R 423	NRSA63D-103X	MG RESISTER		
	R 424	NRSA63D-223X	MG RESISTER		
	R 425	NRSA63D-103X	MG RESISTER		
	R 426	NRSA63D-223X	MG RESISTER		
	R 427	NRSA63D-103X	MG RESISTER		
	R 428	NRSA63D-153X	MG RESISTOR		
	R 429	NRSA63D-392X	MG RESISTER		
	R 430	NRSA63D-153X	MG RESISTOR		
	R 431	NRSA63D-392X	MG RESISTER		
	R 432	NRSA63D-123X	MG RESISTOR		
	R 433	NRSA63D-822X	MG RESISTER		
	R 434	NRSA63D-123X	MG RESISTOR		
	R 435	NRSA63D-822X	MG RESISTER		
	R 436	NRSA63J-223X	MG RESISTOR		
	R 437	NRSA63J-302X	MG RESISTOR		
	R 438	NRSA63J-223X	MG RESISTOR		
	R 439	NRSA63J-302X	MG RESISTOR		
	R 440	NRSA63D-103X	MG RESISTER		
	R 441	NRSA63D-103X	MG RESISTER		
	R 451	NRSA63J-473X	MG RESISTOR		
	R 452	NRSA63J-563X	MG RESISTOR		
	R 453	NRSA63J-1R0X	MG RESISTOR		
	R 454	NRSA63J-1R0X	MG RESISTOR		
	R 455	NRSA63J-223X	MG RESISTOR		
	R 456	NAD0006-103X	THERMISTOR		
	R 481	NRSA63J-100X	MG RESISTOR		
	R 483	NRSA63J-0R0X	MG RESISTOR		
	R 491	NRSA63J-471X	MG RESISTOR		
	R 492	NRSA63J-471X	MG RESISTOR		
	R 495	NRSA63J-471X	MG RESISTOR		
	R 496	NRSA63J-471X	MG RESISTOR		
	R 497	NRSA63J-1R0X	MG RESISTOR		
	R 502	NRSA63J-332X	MG RESISTOR		
	R 503	NRSA63J-103X	MG RESISTOR		
	R 504	NRSA63J-333X	MG RESISTOR		
	R 506	NRSA63J-473X	MG RESISTOR		
	R 509	NRSA63J-104X	MG RESISTOR		
	R 510	NRSA63J-102X	MG RESISTOR		
	R 511	NRSA63J-102X	MG RESISTOR		
	R 512	NRSA63J-102X	MG RESISTOR		

■ **Electrical parts list (MD servo board)** **Block No. 05**

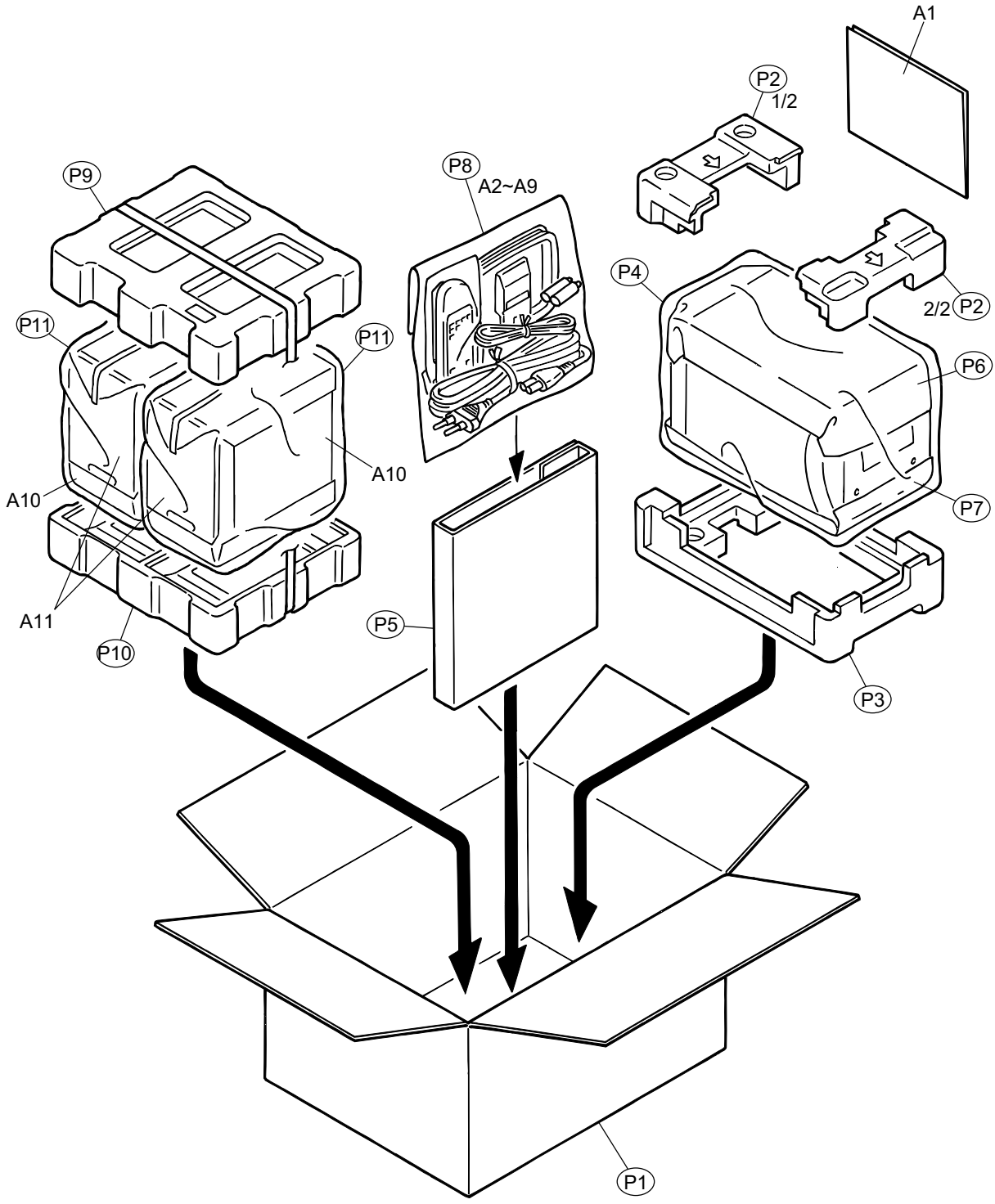
⚠	Item	Parts number	Parts name	Remarks	Area
	R 513	NRSA63J-102X	MG RESISTOR		
	R 514	NRSA63J-102X	MG RESISTOR		
	R 515	NRSA63J-102X	MG RESISTOR		
	R 516	NRSA63J-102X	MG RESISTOR		
	R 517	NRSA63J-104X	MG RESISTOR		
	R 518	NRSA63J-102X	MG RESISTOR		
	R 519	NRSA63J-102X	MG RESISTOR		
	R 520	NRSA63J-102X	MG RESISTOR		
	R 521	NRSA63J-102X	MG RESISTOR		
	R 522	NRSA63J-222X	MG RESISTOR		
	R 523	NRSA63J-102X	MG RESISTOR		
	R 524	NRSA63J-102X	MG RESISTOR		
	R 525	NRSA63J-102X	MG RESISTOR		
	R 531	NRSA63J-103X	MG RESISTOR		
	R 532	NRSA63J-103X	MG RESISTOR		
	R 533	NRSA63J-103X	MG RESISTOR		
	R 534	NRSA63J-103X	MG RESISTOR		
	R 535	NRSA63J-103X	MG RESISTOR		
	R 536	NRSA63J-103X	MG RESISTOR		
	R 537	NRSA63J-103X	MG RESISTOR		
	R 538	NRSA63J-473X	MG RESISTOR		
	R 540	NRSA63J-473X	MG RESISTOR		
	R 541	NRSA63J-473X	MG RESISTOR		
	R 545	NRSA63J-0R0X	MG RESISTOR		
	R 551	NRSA63J-104X	MG RESISTOR		
	R 552	NRSA63J-104X	MG RESISTOR		
	R 554	NRSA63J-104X	MG RESISTOR		
	R 555	NRSA63J-102X	MG RESISTOR		
	R 556	NRSA63J-102X	MG RESISTOR		
	R 557	NRSA63J-102X	MG RESISTOR		
	R 558	NRSA63J-102X	MG RESISTOR		
	R 563	NRSA63J-102X	MG RESISTOR		
	R 564	NRSA63J-102X	MG RESISTOR		
	R 565	NRSA63J-102X	MG RESISTOR		
	R 566	NRSA63J-102X	MG RESISTOR		
	R 567	NRSA63J-102X	MG RESISTOR		
	R 568	NRSA63J-102X	MG RESISTOR		
	R 569	NRSA63J-102X	MG RESISTOR		
	R 592	NRSA63J-104X	MG RESISTOR		
	R 593	NRSA63J-103X	MG RESISTOR		
	S 601	NSW0057-001X	2-SWITCH		
	S 602	NSW0007-001X	PUSH SWITCH		
	X 350	NAX0355-001X	CRYSTAL	90.3168MHZ	
	X 500	NAX0361-002X	CRYSTAL	10MHZ 30PPM	

■ **Electrical parts list (MD cam switch board)** **Block No. 06**

⚠	Item	Parts number	Parts name	Remarks	Area
	CN611	QGF1016F3-08	CONNECTOR		
	CN612	QGA1501F1-02	CONNECTOR		
	S 611	QSW0848-001	CAM SWITCH		

Packing materials and accessories parts list

Block No. M 5 M M
Block No. M 6 M M



■ Parts list (Packing)

Block No. M5MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	GV20096-001A	PACKING CASE	1	ACC POWER CORD	
	P 2	GV10053-002A	TOP CUSHION	1		
	P 3	GV10054-002A	BOTTOM CUSHION	1		
	P 4	QPC05005015P	POLY BAG	1	FOR SET	
	P 5	GV20088-002A	PACKING PAD	1		
	P 6	GV40168-002A	SHEET	1		
	P 7	GV40169-001A	PROTECT PAPER	1		
	P 8	QPC02503515P	POLY BAG	2		
	P 9	8000042701	TOP CUSHION	1	FOR SPEAKER	
	P 10	8000042711	BOTTOM CUSHION	1	FOR SPEAKER	
	P 11	8500032741	POLY BAG	2	FOR SPEAKER	

■ Parts list (Accessories)

Block No. M6MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	GVT0050-008A	INST.BOOK	1	ENG	B
		GVT0050-006A	INST.BOOK	1	GER,FRE,DUT	E
		GVT0050-007A	INST.BOOK	1	GER,FRE,SPA,ITA,SWE, FIN,DAN	EN
	A 2	VNA3000-202	REGIST.CARD	1		B
	A 3	BT-54013-1	WARRANTY CARD	1		
	A 4	EWP503-001C	ANT.WIRE	1		
	A 5	QAL0014-001	AM LOOP ANT	1		
⚠	A 6	QMPP060-183-JD	POWER CORD	1		B
⚠		QMPL060-183-JD	POWER CORD	1		E,EN
	A 7	RM-SUXA70MDR	REMOCON	1		
	A 8	----------	BATTERY	2		
	A 9	GV40137-001A	SIDE SPACER	2	ACCESSORIES	
	A 10	UXA70MDK-SPK-SR	SPEAKER BOX(R)	1		
		UXA70MDK-SPK-SL	SPEAKER BOX(L)	1		
	A 11	9910005621	SARAN BOARD	2		